

# BOTANICAL MUSEUM LEAFLETS

## HARVARD UNIVERSITY

---

CAMBRIDGE, MASSACHUSETTS, JANUARY 20, 1971

---

Vol. 23, No. 1

### CHIMÓ: AN UNUSUAL FORM OF TOBACCO IN VENEZUELA\*

BY  
DOROTHY KAMEN-KAYE\*\*

#### INTRODUCTION

It is possible for foreigners to live for months or years in central or eastern Venezuela and never hear the word *chimó*. The average Venezuelan in these parts of the country, if questioned about this form of tobacco, shows little knowledge of or interest in it. Nevertheless, a visitor to el Occidente—the west, the Andean states and states bordering on them—sees evidence of the use of *chimó* everywhere in the form of dark splotches of expectorated saliva on house walls, streets and sidewalks. He will see *chimó* bought, sold and being used. He may even see it made by either a primitive or a modern process.

The origin of this tobacco paste made with other ingredients goes back to Venezuela's pre-Columbian Indian times. Yet, it is used today—essentially unchanged—by a large segment of the modern, non-Indian population.

Chimó does not fall neatly into the accepted classified

\* Presented at the Ethnobotany Section, XI International Botanical Congress, Seattle, Washington, August 26, 1969.

\*\* Honorary Research Fellow in Ethnobotany, Botanical Museum of Harvard University.



ways of using tobacco: smoking, chewing, eating, drinking, snuffing and licking. It is very closely related in method of preparation to the tobacco concentrate (*ambíl*) of several primitive South American Indian tribes; *ambíl* is licked. The method of use is somewhat similar to that of snuff, especially of snuff-dipping. Yet, in referring to chimó, Venezuelans employ the verb “to chew” (*mascar*) or more often “to eat” (*comer*).

Cooper (20) follows a widely accepted classification of tobacco uses, placing it in the category of licking. He cites Lewin (41), who considers chimó between his discussions of chewing and licking.<sup>1 ‡</sup>

For these and other reasons appearing in the course of this account, it is evident that chimó is a very fascinating way of utilizing what William Byrd II of Westover called “that bewitching vegetable”. Yet, chimó has, for the most part, been passed over by writers on the use of tobacco. There is very little available on chimó in English, and not much more in Spanish either in the writings of the early chroniclers and their immediate successors or among modern commentators.

The limited area of its use in western Venezuela and adjacent Colombia, plus the fact that it involves both primitive and contemporary factors and therefore does not fit into any one category, may account for this lack of attention.

My reading in both English and Spanish has included material in ethnology, history, botany, economics and travel accounts; the areas of narcotics and drug use in general; and tobacco techniques in particular.

In 1941, I spent several weeks in the Venezuelan Andes, visiting towns along the Trans-Andean Highway

‡ Superior numbers refer to notes at the end of the text. Numbers in parenthesis refer to bibliographic entries.



—Trujillo, Carora, Timotes, Mucuchíes, Mérida, San Cristóbal—observing the preparation of chimó, especially in Timotes, State of Mérida. In 1949, I spent ten days in Boconó, State of Trujillo, interviewing a number of local people and visiting a small chimó manufactory, where several individuals were employed but where machinery was not in use. Consequently, I observed both primitive and semi-commercial aspects of its production. Later, I studied a third aspect—the modern, commercial production.

During 1968–1969, I carried on extensive correspondence with scholars and with several informants in Venezuela, among them a long-time collector of folk customs, resident of Trujillo State.

There are some limitative points in the following discussion of chimó. 1) My informant living in Trujillo stresses the fact that his first hand knowledge of chimó concerns only the area where he lives and that from locality to locality there are variations in preparation and use and in beliefs concerning it. 2) Writers, especially in Spanish, borrow from each other constantly. A statement may, through repetition, gain weight that it does not deserve. 3) As chimó has become a part of the culture of “the people” (*el pueblo*), it has become an element of folklore. Consequently, contradictions form an integral part of the information on its function in society.

## PART I

### CHIMÓ: WHAT?

Definitions of chimó vary. The Venezuelan lexicographer Alvarado (5) defines it as follows: “Chimó—a soft extract of tobacco, alkalized<sup>2</sup> and aromatized. The alkali chosen is *urao* (sesquicarbonate of soda)<sup>3</sup> or bicarbonate of soda, or else lye made from ashes,<sup>4</sup> obtaining in the



latter case an extremely strong product. The aroma consists of *sarrapia* (tonka bean) or *curía*.<sup>5</sup> In the west (el Occidente) and the lower plains (Bajo Llano), *chimó* replaces chewing tobacco.—‘On Aug. 2 of the same year (1781) *mó*, *chimó* and *urao* were included in the monopoly’ (Codazzi). Apparently an Andean word, included in Terreros’ Dictionary. . . . Synonym, *chimú*.<sup>6</sup> ‘On it *chimú* is placed which is the quintessence of tobacco’ (Gumilla, II, 222—2nd ed’n)’.

The notes on this definition make it obvious that the “what” of *chimó* is not a simple matter. Describing its preparation by the primitive method, used in household manufacture (*fábrica casera*), from *mó* to *bojote*—from basic ingredient to packet purchased by consumer—seems the best way of clarifying exactly “what” *chimó* is.

The basic ingredient of *chimó* is tobacco in the form of *mó* or *móo*. *Mó* is a thickish brown-black extract of tobacco from the cooking of tobacco leaves in water.

In the 19th Century, Díaz (24) and others, describing the Venezuelan *cura negra* (black cure) of tobacco—as opposed to the more usual *cura seca* (dry cure)—mention *mó* and *chimó* as by-products of this process.

The *cura negra* is essentially a process of compression, fermentation and sweating, during which, from ropes of tobacco made into huge balls, there is distilled a thick extract (*ambír*). The method of this cure is very similar to processes employed in the production of Perique in Louisiana and Anduyo (or Andullo) in Santo Domingo (4, 12, 53).

Díaz adds that *chimó* results when *ambír* is boiled down to a jelly-like consistency and “is used. . . instead of chewing tobacco, taking portions into the mouth, dissolving it there as though it were a caramel”.

Today, the *chimó*-maker (*chimoero* or, less frequently,



*chimocero*) may also prepare his own mó or—more often—buy it from the evaporator (*mermadór*), who specializes in making mó in quantity. This man, who may be located at a distance from the *chimoero aliñadór* (maker who adds flavoring, etc.), might be the grower as well, of the tobacco used.

In the form offered for sale, mó is also called *chimó en Istú* (*istú*, *ystú*) or crude *chimó*.<sup>7</sup>

To make mó, fresh or dried tobacco leaves are steeped for hours or even days in near-boiling water, in a large copper or cast-iron cauldron.

According to Wolf (71), a part of the tobacco cured in Venezuela today “is always utilized in making chimó and ‘tobacco rapé’”. Cardona (17) quotes an informant from Trujillo State who specifies the use of dry tobacco leaves. On the other hand, Dupouy (27) states that the whole plant is utilized—stems, leaves and roots—which seems to indicate use of green material. Valero (pers. comm.) asserts that, whenever possible, green leaves are employed, since use of dry leaves results in a bitter *chimó*; he adds that fresh leaves yield more juice.

When the leaves are reduced to pulp and are “exhausted”, the mass is removed from the cauldron and squeezed in a crude wooden press. This, according to Valero (pers. comm.) is a double grill of wooden strips tied together with vines, set on a frame of four forked uprights and weighted with stones. The tobacco juice drains into a receptacle underneath and is strained in a bag (*costa*) of *coquiza* (*Fourcroya Humboldtiana*) cording. It is returned to the cauldron to be reduced further.

Mó is put into a variety of containers for sale. The mó for the *chimó* which I saw made was sent on the bus from Valera to Timotes in a gasoline can.

Preparing mó may be called the first of two stages in



making chimó. Stage two begins when mó is returned to the fire and an alkalizing agent (perhaps sweetening and flavoring as well) is added.

I observed this process in Timotes, Mérida State, where a *cocha* (variant of *cochura*, a batch) of chimó was prepared by Balbina Ramos and her son Juan, well known *chimoceros*.

I arrived at Balbina's house early in the morning. In the open patio, a small charcoal fire smouldered. The mó was poured into a round-bottomed cast-iron pot (*caldero*, used in Venezuela for cooking food) and put on the fire to heat.

*Cernada* (literally "strained") stood ready, in a tall kerosene can. Balbina said that it consisted of equal weights of water and ashes, left to "rest" for three days, then strained.

The one invariable additive to chimó (unless *urao* or bicarbonate of soda is used) is the *cernada*.<sup>8</sup> The word refers either to solid ash prepared for making lye or to the lye-water itself. It is referred to as an *aliño* (seasoning), although it is neither an aromatic nor a sweetener.

This *cernada*—in this case in proportion of about one part to five of mó—was added slowly. The contents of the pot gave off an acrid odor.

As the mixture heated, Juan sat close to the fire, stirring it (*batir*) constantly. Later, he stirred more slowly: when the fire got low, he brought a few coals from the kitchen on a tin shovel. He said that chimó must never be allowed to boil and must be set on a very low fire to prevent its burning. It burns easily and is bitter if scorched.

As the chimó thickened and turned glossy black, it gave off the smell of burned cereal or of cooked sugar. I knew that brown sugar (*panela* in brick form, *papelón* if a cone) is sometimes added to chimó, but I had not noticed anything put in except the *cernada*.



*Chimoeros* are understandably reluctant to share their seasoning secrets, since their success depends on the distinctive character of their product. Either in Timotes nothing but the *cernada* is added or Balbina managed to hide the fact that she added sugar and perhaps other ingredients to this *cocha*.

Many additives—all of plant origin—are mentioned in descriptions of *chimó*.<sup>9</sup> When they are listed, the inference is that they are added when the *chimó* is being cooked. On the other hand, Valero (pers. comm.) states emphatically that *chimoeros* in his part of Trujillo use *cernada* only and that, when various aromatic substances are added, it is done to satisfy the taste of the individual consumer. In any case, flavoring material is dried and pulverized before being added. Tonka bean, for example, is sometimes toasted, then reduced to powder. Valero's statement is substantiated by inference by Cardona (17), who quotes an informant from the same part of Venezuela as Valero on the making of *chimó*; she does not mention additives other than *cernada*.

When the *chimó* had cooked for about an hour, Juan tested it by allowing some to hang from his stirring paddle and fluttering his fingers gingerly against it. Later, he put some on a greased shovel to cool, then struck against it with a spoon. He explained that, if it sounds dull, it is not done; when done, it gives a clear sound (*clarito*). The expression "*coger punto*" is used to indicate that something cooking is "ready" or "done"—that is, at the proper stage.

The *chimó* took nearly two hours to "*coger punto*". Juan exclaimed "*Ya!*" ("Now!") and lifted the pot off the coals.

After it had "rested" a while, and Juan saw that it was not sticky (*pegón*), he made several heaps (*tortas*) of it on a table, where it continued to cool. It was now



dull black, a softish paste that stiffened as it cooled.

With greased hands, Balbina and Juan rolled each *torta* into a long cylinder about an inch in diameter. With greased scissors, these cylinders were cut into segments about two inches long. These segments were wrapped in cut-to-measure pieces of the dry outer sheath of banana or plantain stem (*cascarón de cepa de cambur*—*de plátano*) purchased by the bundle (*paca*).

The wrapping of the chimó into a *bojote* (package) is done rapidly, with a flick of the wrist. There is a variety of foldings of wrappers and of wrapping materials, according to locality. (See Plate I.) The finished *bojóticos* (little packages) that Balbina and Juan made, measured about four inches long, including the ends of the wrappers.

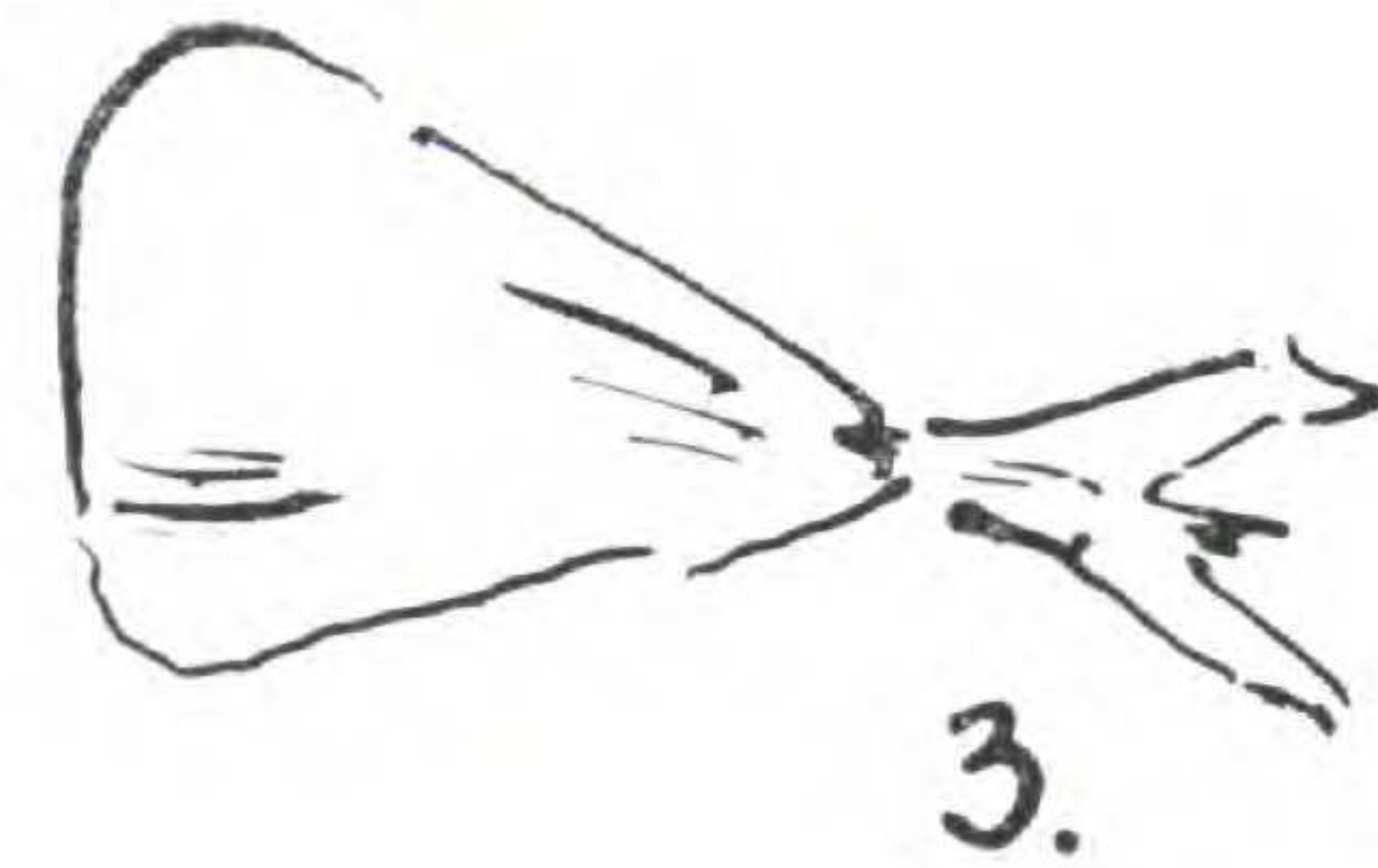
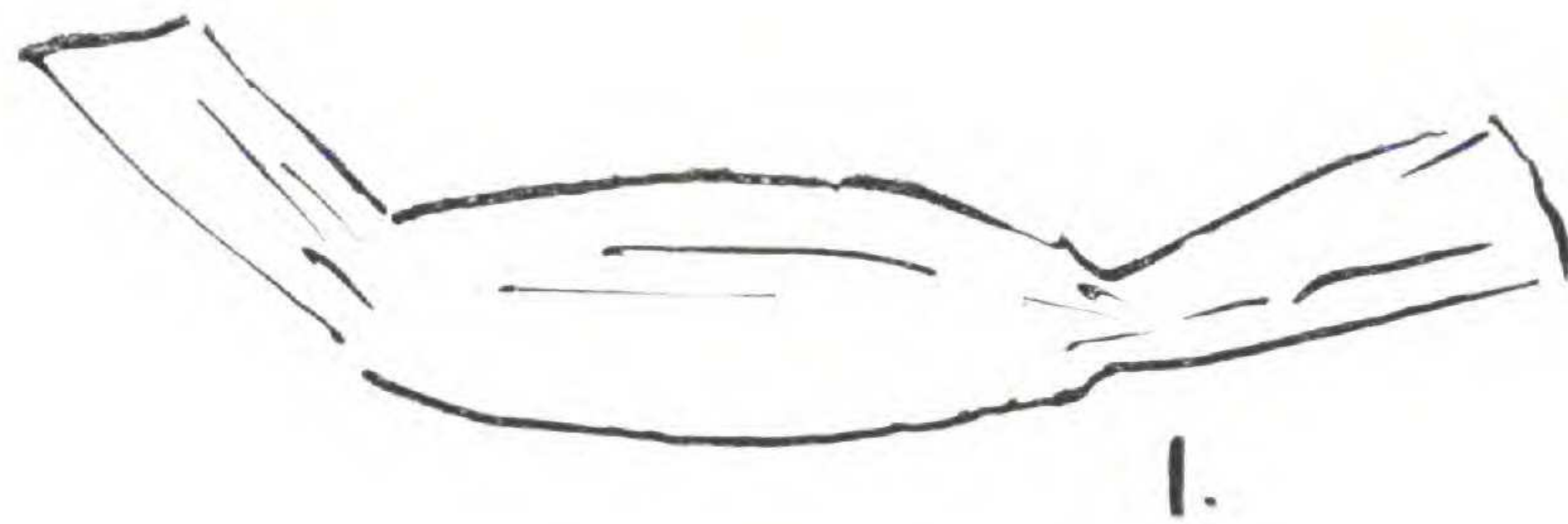
The chimó-making process described here represents the smallest-scale chimó production. This chimó is made for family use or to be sold to neighbors a few *bojotes* at a time, or perhaps to a small storekeeper nearby.

Besides *chimoeros* of the “home manufacture” group, there are two other main types of chimó producers.

1) There is the *chimoero* who makes relatively large quantities by the method described above but who employs several helpers. He represents the transition between home and commercial manufacture. In Boconó, Trujillo, Don Tobías preferred to describe rather than demonstrate his process of manufacture. The chimó that he made was wrapped in dry corn husk (*broza* or *coroto de maíz*).

2) There is the manufacturer of chimó who uses machinery as well as helpers. The producer of “Chimó Los Mangüitos” started with a home industry which finally grew into a commercial enterprise. The chimó that he produces is put through a spaghetti machine and is cut by electric knives into sections a little over two inches long which measure only about a quarter-inch in diame-





[ 6 ]

Packages (*bojotes*) of chimó. 1. From Timotes. Material: dried sheath of banana or plantain stem (*cascarón de cepa de cambur o de plátano*); ends sharply bent once only.  $4'' \times 1'' \times \frac{3}{4}''$ . 2. From Mérida and San Cristóbal. Material: dried corn husk (*coroto de maíz*) tied with strip of same.  $2\frac{1}{2}'' \times 1\frac{3}{4}'' \times \frac{3}{5}''$ . 3. From the country near Boconó. Material: dried corn husk.  $4'' \times 2'' \times \frac{1}{2}''$ . 4. From Boconó. Material: dried corn husk; ends sharply bent and given points, then ends bent again midway of length.  $4'' \times 1'' \times \frac{3}{4}''$ .



ter. These are wrapped in waxed paper printed with a trademark. Including the twisted ends, this is a unit about four inches long and much more slender than the primitive *bojote*.

Even about twenty years ago, this commercial type of *chimó* had gained great acceptance, and several brands were available. At present, according to official statistics (pers. comm.), about 20,000 kilos (44,000 pounds) monthly are made by machinery. The best known brands of this type of *chimó* are made in the State of Trujillo, trademarked "San Benito" and "Carmana".

As long as *chimó* was essentially a product of home manufacture and consumption in a limited area, the first consideration was quality. As it enters the area of commercial enterprise, two other factors become important: quantity for the consumer and profit for the maker.

In 1949, a *bojote* of *chimó* cost one cent (*un centavo*); later, the price went up to two and a half cents (*locha*), where it has remained. However, the quantity of *chimó* in a *bojote* has dwindled. In some cases, *chimó* is wrapped in two layers of corn husk or banana stem material "to make it look like something", said a woman in Boconó (39). The machine-produced type of *chimó* has never seemed to be as much for the money as the primitive type.

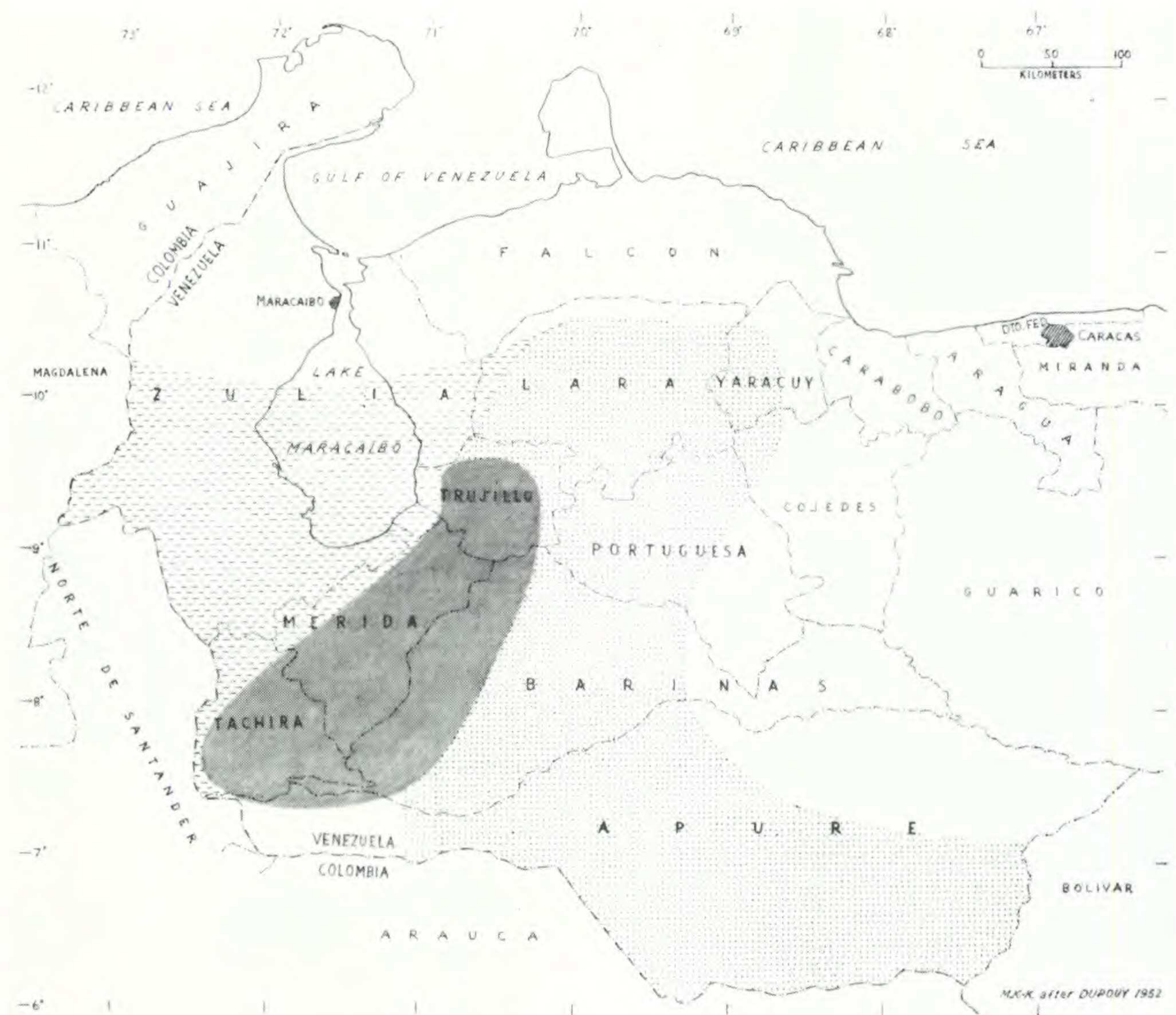
#### CHIMÓ: WHERE AND WHO?

The State of Mérida seems to have been the center of dispersion of *chimó* in pre-Columbian times, according to Dupouy (27). His map indicates that the post-Columbian use has spread beyond the three other states to which it then extended (Táchira, Trujillo and Barinas) to four additional states: Portuguesa, Lara, Yaracuy and Apure. Cardona (17) correctly adds Zulia to these states (Dupouy, pers. comm.). (See Plate II.)

*Chimó* is used in a Department of Colombia adjacent



# PLATE II



Regions of chimó use in Venezuela. Shaded area shows the approximate extent of consumption of chimó in pre-Columbian times; dotted area the approximate spread in the 20th Century; dashes indicate approximate extent of area added by Cardona.  
(After Dupouy, 1952.)



to Táchira, Venezuela—Santander del Norte, where it is called “*chimú*”. Reichel-Dolmatoff (pers. comm.) asserts that it is “widely used by the peasants and lower classes” and adds: “In the market of Cúcuta, the capital, one can buy finger-long bits of *chimú* wrapped in paper and even sealed with an official label of the national tobacco monopoly”. Schultes (pers. comm.) indicates that *chimó* is employed throughout the eastern and northern part of the Colombian Llanos.

Venezuela and Colombia have today a long common frontier and their adjacent mountain regions have shared many culture traits, some dating from pre-Columbian times.

Dupouy (27) states that the use of *chimó* is spreading rather than diminishing geographically. This seems probable, with the increased mobility of the rural population of Venezuela in the past twenty-five years, due to the construction of more and better roads. On the other hand, the appearance of *chimó* in a certain area need not mean that number of users has increased significantly: it may mean that users have moved from one place to another, taking the habit with them.

While *chimó* has relatively little competition in the Andean region, in Andes-bordering areas it must compete with two well established uses of tobacco: chewing and smoking. Whether or not *chimó* is spreading in terms of the acquisition of new users depends also on its advantages in comparison with those of these two rivals.

It is true that in Caracas until about 1945, it was possible to buy *chimó* (paper-wrapped, the only type available) only in certain neighborhoods to which country people gravitated on arrival in the city. Recently, however, *chimó* has been stocked in most tobacco-stands and shops all over the city and is sold also in neighborhood “public markets”. (17; Dupouy pers. comm.)



The question of who uses chimó or has used it in the past involves some striking facts connected with this curious utilization of tobacco.

Acosta Saignes (1) draws on both the writings of the early chroniclers and 19th Century authors on Venezuelan history in reviewing the Timoto-Cuica culture of the region now included in the States of Mérida, Táchira and Trujillo. He reports that tobacco use was shared by them with other tribes; that it was employed in a characteristic form—chimó (also known as mó); that this use extended throughout the region, even as far as Barinas, where it persists to this day. Whether this use was restricted to certain individuals or was general remains a question. Quoting other writers, Acosta Saignes continues that *urao* was utilized by these Indians in the preparation of chimó (see note on *urao*).

This highland population of hunting and maize-growing Indians was exterminated, according to Wissler (70), by the Spaniards. Over a period of about two hundred years, almost the entire Indian population of the west coast of Venezuela as well as of the highlands was destroyed as colonization proceeded. Initially responsible for this decimation were the Welsers (*Belzares*), a firm of German bankers to whom, in 1529, Charles V ceded the land between Capes Maracapana and Vela with the hinterland. Their occupation was terminated by Royal decree in 1556, but they remained there ten years longer. The Crown stipulated that they must administer their concession and protect the Indians. They disregarded everything but the opportunity to enrich themselves, searching for gold (especially “*El Dorado*”) and capturing and enslaving the Indians (64). Many of the Indians were put to work in mines or in pearl fishing before Negro labor was introduced, and many died in this unaccustomed and very hard work.



The Welsers were followed by Spanish colonizers. Indians who resisted their advance into the interior were slain or captured and enslaved.

By the 17th Century, the Church arrived, organized missions and taught the natives agriculture and trades. The result was a kind of *encomienda* system (*encomienda*—a certain estate granted by the Spanish king). This type of *encomienda* was followed by another, in which individuals were given land. The Indians living on it were considered property to be exploited. In both types of *encomienda*, Indians were forced to do many kinds of hard work to which they were not accustomed, continuing the toll of sickness and death among them.

Finally, in the 17th Century, the remaining Indians were collected into villages (*reducción*, a settlement of converted Indians). Miscegenation, which had existed all along, increased under this arrangement (64).

In the following two hundred years, surviving Indians were gradually absorbed into the spreading Spanish civilization and an ever-increasing *mestizo* (half-breed) population appeared. Thus, three elements—Spanish (which became *criollo*, but of pure blood), *mestizo* and Indian—fused, to become the Venezuelan Andean population of today. Throughout its evolution, this population retained many culture patterns—among them, the preparation and use of *chimó*.

Today, mostly among rural, lower-income people, *chimó* is used by men, women and boys. It is regarded as a solace to the spirit and a comfort to the body, and around it has grown up a complex of beliefs and customs which are a way of life—a way far removed from the primitive circumstances of its origin.

At some time during the 19th Century, European techniques of *tobacco* use reinforced the customs con-



cerned in the original utilization of *chimó*, and it gained acceptance among people of rank and importance who lived in parts of Venezuela where tobacco was grown, and in the Andes where *chimó* was already a habit (*vicio*).

These European techniques of use were those of snuff-taking, fashionable in both Europe and North America in the 18th and 19th Centuries. It was also the period of greatest development of Venezuela's tobacco industry, when the tobacco produced—especially in Barinas (Varinas)—was world-famous for quality.

If the details of snuff-taking—especially of dipping snuff—are compared with the use of *chimó*, many similarities are obvious (10, 15, 21, 28, 34, 53).

Taking snuff was common among elegant people; it was thought to be beneficial to health. At hand was *chimó*, very like snuff. It was carried on the person in a box; it was allowed to remain in the mouth to be enjoyed, like dipped snuff; it was tobacco with flavoring added, like snuff. It was, in short, enough like snuff to be used like snuff.

According to Briceño-Iragorry (14), "There was a time in Venezuela of a great consumption of *chimó*. It was used by the élite and the humble, the young girls and the old ladies."

Dupouy (27) states: "Although the country people form the great majority of users. . . there was no lack (although today in decreasing numbers) of people of importance who also had the 'vice' of 'eating *chimó*'. . . . If the first carry it in a simple leaf or piece of paper, the second carry it in cowhorn (*cacho*). . . . It is rare, but not unknown, that some of the élite 'eat' *chimó*; above all, the owners of estates (*haciendas*) in the cooler places. This, which was formerly frequent, is not so now. . . . I have known some women—above all aristocratic old ladies—who take *chimó*, especially in order to sleep."



Pinedo (pers. comm.), a Venezuelan in his eighties, reminisces: "Sixty years ago, I saw mature ladies of the aristocracy of Mérida using elegant containers of sterling silver with little spatulas (*pajuelas*), also of silver, attached by a silver chain, that they used to put a small amount of *chimó* on the teeth."

Depons (22) observes: "The liquid which is expressed from the tobacco . . . is boiled to the consistency of a syrup. It becomes by this means an object of great consumption among the planters of the interior of Terra Firme, principally in the part of Varinas. The women have a small box, which they wear like a watch, suspended to one side at the end of a cord. Instead of a key it is furnished with a little spoon, with which they help themselves from time to time of this juice, relishing it in their mouths like a sweetmeat. This corresponds to the chewing of tobacco among our sailors."

It is interesting to compare the above account with Billings' (10) description of snuff-dipping among young ladies of fashion in Virginia in the late 19th Century: "For snuff, the ladies have very nice round boxes with lids, which they always carry with them full of black snuff highly but pleasingly flavored. They also carry little brushes or sticks about three inches long with pliable ends; these they wet in the mouth, then dip into their snuff-box, and then place them in the mouth outside of the gums and rub earnestly for two or three minutes." He adds that one of the prettiest belles of Winchester asked him to dip with her, and a daughter of an ex-Governor of the State, "handing me a silver-tipped brush and opening a rosewood snuff-box richly inlaid with gold, politely asked me to 'dip' with her."<sup>10</sup>

#### CHIMÓ: HOW?

A person using *chimó* is usually said to "eat" (*comer*),



although the word "chew" (*mascar*) is often used. A portion of *chimó* is called "a chew" (*una mascada*) as well as "a meal" (*una comida*) or lump or ball (*bolea*, derived from the vocabulary of tobacco curing).

A man offering another *chimó* usually says, "*Coma chimó, compadre!*" ("Eat *chimó*, old chap!") (27).

As might be expected in a custom as common as that of eating *chimó* in Andean Venezuela, there is great variation in details of 1) method of use, 2) types of packaging, 3) buying and selling, 4) accessories of use, and 5) beliefs and attitudes associated with *chimó*.

Examination of these details will present a clear picture of *chimó* as used in modern Venezuela.

1. *Method of use.* An amount of *chimó* about the size of a pea is placed in the mouth with the index finger, to adhere to the inner surface of the lower front teeth.<sup>11</sup> As the paste slowly dissolves, the saliva produced by its sharpness accumulates and must be expectorated.

If the paste be carried in a *chimó* box (*cajeta*), the *chimó* is removed with the tip of the forefinger; if in its original package (*bojote*), the amount wanted is either bitten off and transferred to the finger or is pinched off.

A *chimó* user is seldom without a *mascada* in his mouth: he may consume as many as three *bojotes* a day (39). He takes it in the morning to prevent hunger pangs, if he must wait some time for a meal (*para que el estómago aguante*). Dupouy (27) mentions the common habit of sleeping with a pellet in the mouth.

*Chimó* is an invariable part of all social gathering and observances: saints' days, weddings, baptisms, funerals, or community celebrations at Christmas, Holy Week, feasts of community patron saints, etc.

Lewin (41) significantly describes the use and effect of *chimó* as reported by those who take it: "A very con-



siderable adaptation of the organism must have taken place to permit the absorption of this powerful nicotine preparation which is taken frequently and in relatively strong doses." In this connection, I should point out that various types of chimó are available, not all of them of equal strength. Chimó *manso* or *dulce* (mild or sweet) is not so irritating as chimó *bravo* or *fuerte* (fierce or strong), which contains fewer mellowing ingredients and is more toxic (27). Chimó made with *urao* is said to be milder than that made with ashes and has a different taste (5, 39). Moreover, if individuals may be accustomed to chimó from infancy, as has been reported, and since the strength of the chimó can be chosen, the adaptation to which Lewin refers could be quite gradual and less of a shock to the system.

2. *Packaging.* Chimó made by home manufacture or by the small producer, is wrapped either in dried corn husk (*coroto* or *broza de maíz*) or in the dry sheath material of the banana or plantain stem (*cascarón de cepa de cambur* o *de plátano*). Chimó may be folded into an oblong package (*bojote*) with protruding ends which are folded in distinctive ways, according to the usage in various areas. Approximate measurements of this type are: chimó  $1\frac{1}{2}$  inches long: wrapped package length 2 inches; overall length of wrapper material 3 to 4 inches. Another package is box shaped, wrapped in corn husk, tied with strands of husk. Approximate measurements are  $2\frac{1}{2}$  inches by  $1\frac{3}{4}$  inches by  $\frac{3}{5}$  inch.

Mass produced chimó is wrapped in waxed paper. In the 1940's, transparent paper was used, and a slip with the brand-name was enclosed. Today, an opaque, heavy waxed paper with the brand-name printed on it, is utilized. Approximate measurements are: length of chimó  $2\frac{1}{4}$  inches; overall length of wrapper material with



twisted ends, 4 inches. The chimó in this wrapper has a much smaller diameter than that of primitive manufacture. Dupouy (pers. comm.) learned that buyers of this type of chimó count on only two or possibly three chews a roll, fewer than formerly at the same price.

All these packages may be called *bojote*, but those made with corn husk or banana or plantain material are referred to as *bojote en hoja* (package in leaf). Purchasers of chimó in waxed paper usually ask simply for “a chimó” (*un chimó*). Pinedo (pers. comm.) reports a variant form of packaging: chimó is sometimes wrapped in foil in Sucre State. Valero gives (pers. comm.) an interesting sidelight on the form of *bojotes*: “Not long ago the *bojotes* were tied with a single cord in long strings, and the *chimoeros* went out to sell with these strings thrown across their shoulders. These *bojotes* were tied at both ends, and the strings had the form of ladders. These . . . were called chimó *bocadillo*”. He adds that perhaps this name was given them because, in this wrapping, they resembled a sweet made with guavas, similarly wrapped, called *bocadillo* (a tasty morsel).

3. *Buying and Selling*. The most direct and casual way in which chimó is sold, unless from the *chimoero*'s own house, is in the plaza market of a town or even of a city like Mérida.

In the market, with everything spread out on the ground, women who sit on the ground or men who use small stools (*banquetas*) sell chimó directly from the pot in which it was made. For each customer, they take some up on a paddle, smear it on wrapping material and fold it into the usual package. While waiting for customers, they may wrap a few *bojotes* and place them in a little pile on a cloth at the side of the pot.

*Chimoeros* may choose to sell wholesale to a shop.



*Chimó* may be bought in several types of shops, perhaps the most popular of which is the *campesino's* (country man's) substitute for a club, the grog shop (*botiquín*). Here he buys liquor (usually *aguardiente*, liquor of poor quality distilled from sugar cane) by the glass and plays dominoes at one of several rough wooden tables.

Other shops are the large provision store, the *bodega*, or the smaller, humbler general store characteristic of villages or country crossroads, the *pulpería*. These shops may sell either the paper-wrapped or the leaf-wrapped, or both types of *chimó*.

In Petare, a town on the edge of Caracas, *chimó* was noticed in the Free Market at a general tobacco stand by Cardona (17). It was the paper-wrapped type and was kept in a closed glass jar "the way candy is kept, so it won't melt (*derretirse*)". This precaution is necessary, since *chimó* liquefies after about a month and is no longer usable.

From one cent (*un centavo*) in 1942, the price of *chimó* has increased to two and one-half cents (*una locha*), or one-eighth of a *bolívar* (calculated at standard value of twenty cents).

Since low cost for a highly effective result has been a point in the popularity of *chimó*, we might speculate on its future should the price continue to rise or the quantity in a *bojote* go down further. Valero (pers. comm.) observes that in Trujillo the younger men are turning away from *chimó* to cigarettes because of extensive advertising. Venezuela produces several brands, and cigarettes are sold singly as well as by the pack.

4. *Accessories*. Accessories used with *chimó* are the *chimó* box (*cajeta*, literally "little box"; also called *cuca*, *chimoera*; *cachito* when made of horn) and the spatula (*pajuela*, *paletica*).



The classic material of which *chimó* boxes are made is cow horn (*cacho, cuerno de res*). Tesser (pers. comm.) states that they also may be made from sections of cane or reed or made of small *gourds*. Seen here and there in use also are round metal boxes which originally held ointment or pills (27, 39).

Although *chimó* boxes vary in detail, sizes are rather constant—the diameter of a quarter to a silver dollar, even a little larger.

Acosta Saignes (2), in an illustrated monograph, describes the making of cow horn *chimó* boxes. He watched an elderly *cajetero* at work and questioned him on each of twenty-seven operations. Working some ten hours a day, this man could produce about twenty *cajetas* a week. He sold them for one *bolívar* apiece. All sizes are priced the same, since the smaller ones are harder to make. He sometimes sold to a shopkeeper who asked a slightly higher price for them.

A *cajetero* buys horns from a slaughter house (*mata-dero*) at a very low price. His work on this raw material is slow and laborious and requires patience and skill. Most *cajeteros* are elderly men. Their only competitors have been prisoners, who made *chimó* boxes until recently when there developed a tourist trade in birds and other novelties made of horn.

The process of making *chimó* boxes is too complicated to describe here. Most boxes have a slightly convex top and bottom, a shape obtained by pressing heated pieces of horn onto a wooden mold. These parts and the rims are made in quantity and are then matched up.

Each box consists of two similar halves fitted together and matched in horn-color. They are selected to fit a little tightly, as the *chimó* lubricates and loosens them.

Not all boxes have convex sides; some light colored boxes are flat, adorned with simple patterns of circular



incised lines made with a sharp point and filled with red color. The pattern seems to be derived from the use of a coin to produce concentric circles or petal shapes. Boxes may also be inset with mother-of-pearl or other contrasting material.

The spatula (*paletica*, *pajuela*), occasionally fastened to the *chimó* box lid by a cord or chain (27; Tesser, pers. comm.), may be made of horn, wood, bone or silver. It is utilized instead of the finger tip to apply *chimó* to the teeth. Boxes with spatulas are decorated, usually by a local jeweller, with inlaid or appliquéd designs in silver to match the chain by which the spatula is attached. This type of box is a luxury.

A special kind of box is made from the tip of the horn and is called *cóngolo* in Trujillo State (Valero, pers. comm.) but *cóngola* in Lara State (27). Shapes adapted to the form of the material are made—birds, fishes (called *caribe*) and other animals.

These zoomorphic boxes are prepared in two halves, so skillfully joined as to appear as one piece and are highly polished. They are engagingly carved with round eyes and wings, etc., drawn with a minimum of lines.

Pinedo (pers. comm.) states that these boxes are made only for sale to collectors of curiosities or to tourists and are not meant for actual use. On the other hand, Valero (pers. comm.), describing their manufacture, adds matter-of-factly, "When the maker has a little artistic skill, he carves a box in the form of a bird or animal."<sup>12</sup>

*Chimó* boxes are carried by men usually in a trouser pocket. Unless they have a pocket in the dress, women wrap the box in a handkerchief and tuck it into the bosom.

Occasionally, when placing *chimó* in a box, a user will add a freshly plucked aromatic leaf "to give a better flavor". One leaf, observed in Boconó (39), was said to



be *oroús* (identity uncertain; Pittier lists two plants of this name, both of the *Asclepiadaceae* and both with attributed medicinal properties for the respiratory tract). Other leaves added are rose geranium (*aroma*, *Pelargonium odoratissimum*), sweet marjoram (*mejorana*, *Origanum Majorana*), sweet basil (*albahaca*, *Ocimum Basilicum*) (Valero, pers. comm.) and *curía* (*Justicia caracasana*). (See note on *curía*.)

It may be of interest to add to this description of the *chimó* box and its use a commentary by Hiram Bingham (11) who met an old man in Acarigua, Portuguesa State. "He pulled out of his pocket a little horn box about as large as a walnut. It was partly filled with a nasty black nicotine paste which is made hereabouts by mixing the essence of *tobacco* with a mineral salt found in Los Andes. With a small stick picked up from the ground, he extracted a bit of paste the size of a pea and carefully scraped it off on the back of his upper front teeth. This, he assured me, was far better than smoking. I found that the use of this paste is quite common in the towns on the eastern slope of the Andes."

Here is a case of first hand observation plus evidence of some reading or other enquiry. The details of the stick and the upper front teeth may be in error or may be an example of a variant of the usual procedure, but illustrate the difficulty of getting consistent information on a folk custom.

5. *Beliefs and Attitudes.* The whole field of the use of tobacco is involved in a consideration of beliefs and attitudes regarding *chimó*, because parallels are to be found in chewing, smoking and snuffing tobacco. There are also similarities with the use of *coca* (*Erythroxylon Coca*) and other narcotic drugs of South America.

A *chimó* user, for example, asked why he eats *chimó*,



replies that it prevents hunger and fatigue. Like *coca* users, he can delay or even omit breakfast, if he has his little meal (*comidita*) of *chimó*. He can do more work and stave off exhaustion if he has a chew (*mascada*) in his mouth.

*Chimó* users insist that it is a "healthy habit (*vicio*)."  
It enjoys, furthermore, a major role among household remedies. Some of its applications include: to stop a cough, relieve headache, cure dysentery and toothache; it is said also to be good for asthma, influenza, stomach-ache and aches in the limbs (20, 27; Tesser, pers. comm.). In most of these cases, *chimó* is applied to the affected part. Folk medicine suggests, too, the taking of a little *chimó* after getting chilled or wet to avoid catching cold (27). Identical cures are attributed similarly to chewing or smoking tobacco.

Common also to *chimó* and tobacco in general is the belief that it protects and preserves the teeth. Díaz (24) reports: "The custom of cleaning the teeth with tobacco keeps them white and preserves them against decay." Dupouy (27) asserts: "There are those who clean their teeth with *chimó* because, according to common advice, it results in very pretty teeth. In Mérida, they believe that it protects the teeth as well." Billings (10), speaking of young ladies in Virginia who dip snuff, comments that "tobacco sweetens the mouth." How is it, then, that the teeth of a popular saint of the Andean region, are black? <sup>13</sup> A much-quoted couplet about him—among many of similar content—goes as follows:

*San Benito viene,  
Viene 'e Boconó—  
Con sus dientes negros  
De comer chimó.*

*Saint Benedict is coming,  
Coming from Boconó—  
With his teeth all black  
From eating chimó.*



Since Saint Benedict has them, must it not be assumed that black teeth from eating chimó are usual, accepted—even desirable? The fact seems to lie somewhere between black and white, according to Valero (pers. comm.), who points out that many people do not clean their teeth, and that, therefore, the tobacco stains and discolors them without actually turning them black.<sup>14</sup>

A well known use of chimó is mentioned by Reichel-Dolmatoff (pers. comm.) in describing chimó (there called *chimú*) in Colombia. He tells of buying it in the market in Cucutá for use in extracting the grub of *Dermatobia hominis* (*gusano de monte* or *nuche*), the human botfly. The grubs burrow under the skin to develop. (Other species of *Dermatobia* infest animals). The botfly is widely distributed in tropical America.

Gumilla (31), writing of the Orinoco basin in the 18th Century, gives explicit directions—the same as are used today—for removing the grub with the use of chimó: “In the center of the inflamed swelling . . . will always be seen a kind of water that the grub emits . . . on it, chimó is put, which is the quintessence of tobacco, and lacking chimó, put on it chewed tobacco, with which the grub is poisoned . . . then, pressing the flesh with the two thumbs, at some distance from the grub (so as not to mash it) and giving a hard squeeze, the grub leaps out, whole, and all that needs to be done is to heal the hollow it leaves. . . .”

Venezuelan country folk believe that there is something in chimó, chewing tobacco and powdered tobacco that kills the grub. What actually happens is that the air supply is interrupted.

There are other uses of chimó connected with the world of insects and other venomous pests, and the same uses are mentioned in connection with chewing tobacco. Chimó, for example, is applied to the stings of scorpions,



centipedes, wasps, spiders and bees. It is also reported to be a cure for snake bite (17, 27).

Because it is thought so generally valuable, many country people who do not use *chimó* carry it to cure wounds and for insect bites (Dupouy, pers. comm.).

*Chimó* not only cures but also protects; its odor is thought to frighten away snakes, wild animals and insects, and if some is held in the mouth, safety is assured (27). Further, if a man be overtaken by a foreboding of evil, his *chimó* wards off evil spirits. Country people going to and from their little plots of cultivation (*conucos*) habitually carry *chimó* for these reasons, as well as to consume it (Valero, pers. comm.).

These uses of *chimó* are reminiscent of the role of tobacco smoke in cures effected by witch doctors (60). Medicine becomes magic in folk beliefs about the curative powers of *chimó*. Tesser (pers. comm.), listing ills which it supposedly helps, adds that if *chimó* is applied to the afflicted part in the form of a cross, its efficacy is believed to be increased. Magic takes over when *chimó* is used to counteract the evil eye (*mal de ojo*)—an idea that Tesser (pers. comm.) advances without details. (This is the only mention of evil eye encountered in the course of my investigation, although belief in it is common in Venezuela. The reason lies probably in reluctance of individuals to discuss the supernatural.)

A magic use of *chimó* is described by Dupouy (27). On Good Friday night, river waters, said to be “sleeping”, are “awakened” by an exorcist who, after keeping *chimó* in the mouth, throws it into the river. He adds that just as there is the “prayer of tobacco”, so among *chimó* users there are beliefs in its magic properties.

Attitudes toward *chimó* are difficult to evaluate except by repeated contacts in an atmosphere of mutual



confidence. Short, random interviews elicit everything from condemnation (even from users) to uncritical approval.

It is generally agreed that using *chimó* is “a dirty habit”, because of the necessity of spitting dark saliva at frequent intervals. Because today it is employed by the lower income, largely rural population, it has become synonymous with the life that these people lead—simple and spare—in contrast to the life of privilege and sophistication regarded as upper class and urban.

Older *chimó* users defend the habit. An old lady in Boconó called it a “healthy vice”. She said that she had used it all her life and felt younger every day (39). A man in Boconó pointed to another man no longer young, leading a laden donkey (*burro*) up a hilly street. “Look at him, a strong, vital man (*palo de hombre*). He eats *chimó*. He ought to give some to the poor *burro*. Look at me. I’ve been eating *chimó* all my life; my mother rubbed it on my gums, before I had a single tooth. And I can walk all the way up the mountain, nearly to the *páramo* (very high, cold region) and not be tired!”

Those who take *chimó* seem to develop the same kind of fond attitude to the habit that pipe smokers feel for a certain pipe or mixture of tobacco. Similarly, there seems to exist a kind of indulgent admiration of the elderly who have the habit.

Mariano Picón-Salas (49) recaptures in a series of essays his youth in Mérida. In one revealing vignette, he tells of an old man on his deathbed, a soldier who had served with Simón Bolívar. Gathered in the room were his nephews.

One of his nephews asked him if he wanted anything more, and the reply could not have been more to the point. ‘Bring me my *cajeta de chimó* so that I can enjoy a last chew. It’s the only pleasure left to an old man of ninety years.’ The Colonel died on his rawhide bed, near his fighting cock and his Ayacucho



sword. Before he died, he stained the wall with his huge expectorations of chimó; and I could feel as only beautiful the way, almost animal, virile, still filled with life and with violent blood, in which the old man yielded himself. I was then a young doctor recently graduated, with my eye glasses, my affected language and my bit of pedantry, and I felt myself very small before this old man—representative of a superior race, with a great deal of ‘*tabaco en la vejiga*’<sup>15</sup>—who was dying before our eyes.

## PART II

Part II of this paper deals with the appearance of chimó in the Venezuelan Andes and its persistence to the present day.

There are at least two theories to account for the presence in the remote past and the use today of chimó in this area. One of these theories is based on the association of chimó with coca and its techniques and the similarities in effect of the two narcotics. The other depends on the method of making chimó and tobacco concentrate, and the similarities of these two tobacco products.

Before these specific problems are considered, it may be helpful to review facts about narcotics in general and tobacco in particular.

Tobacco (*Nicotiana Tabacum*) contains as its active principle the highly toxic alkaloid nicotine (6).

Lewin (41) writes: “From the first beginning of our knowledge of man, we find him consuming substances of no nutritive value, but taken for the sole purpose of producing for a certain time a feeling of contentment, ease, and comfort. . . . These substances have formed a bond of union between men of opposite hemispheres, the uncivilized and the civilized.”

According to Cooper (20): “Of the various aboriginal South American stimulants and narcotics, alcoholic beverages and tobacco have the widest distribution, being



practically coterminous with gardening. . . . At the present time tobacco is used in one form or another and for one purpose or another by nearly all the Indian tribes of Middle and South America from Honduras to Cape Horn." He points out two dominant trends in use: marked tribal and territorial expansion and equally marked secularization, and he concludes: "Early use was almost exclusively magico-religious and/or medicinal, but in some regions, as in the West Indies, was pretty surely secular and hedonic as well." <sup>1</sup>

Columbus was offered tobacco leaves along with other articles by Indians off San Salvador in 1492; not knowing what they were, he threw them away. Later, one of his scouts learned from the Indians how to smoke the leaves (34).

The general trend from ceremonial to hedonic use however, is largely post-Columbian and is due primarily to European influence (20). <sup>2</sup>

The use of tobacco by man must be of great antiquity. "Native of tropical America," Ames (6) writes "it is unknown in the wild state. . . . The use of the leaves as a smoking material, as a masticatory, and in the form of snuff, and the knowledge of the necessary fermentation to convert the leaves into an acceptable condition, manifests great antiquity for it as a narcotic."

Of some 41 species of tobacco, only two seem to have been used commonly in the past and are cultivated at present: *N. Tabacum* and *N. rustica* (41). Brooks (15) reports: "The nicotine content of tobacco is highly variable and must have been greater as used by aborigines than today after a long development of tobacco with low nicotine content. . . . This, coupled with deep inhalation of smoke, may explain in part the narcotic effect of tobacco upon American primitives as reported by early observers."



Among most primitive South American tribes of the present, tobacco is not the only narcotic in use. It is often employed with coca or as an alternative to coca; it is utilized in one form or another as an alternative to several other narcotics, all of plant origin, or to primitively made alcoholic beverages.

From tobacco in general to chimó in particular is a short, yet not a simple, step.

Early accounts of primitive Andean Venezuelan tribes who used chimó are meagre, and they vary considerably in detail. A carefully researched contemporary account is that of Acosta Saignes (1). In describing the culture of the pre-Columbian Timoto-Cuicas, he relies largely on the early chroniclers and the work of Jahn and recent writers among Venezuelan authorities. Acosta Saignes lists chimó (and *urao*) among the industries of the Timoto-Cuicas and indicates that there was extensive communication and trading among tribes of a large area.

In another monograph (2), he explains the process by which smoked tobacco could have been transformed to the licked type, of which chimó is an example. "Why was chimó found only in the Venezuelan Andes and possibly in their periphery? To answer that question, we remember the custom of chewing coca or hayo mixed with lime, in the Andean culture area. This trait was extended to the Venezuelan coast as an expansion of the Andean culture. In the case of chimó, we see a contrary movement: tobacco, characteristic of the lowlands, ascends to the mountain range, to the Timoto-Cuica area. But the phenomenon does not limit itself to the ascent but also the tobacco on being mixed with *urao* or other alkaline substance to obtain chimó, simply made use of the mixing system which was customary with coca or *hayo*. We are . . . in the presence of a coterminous



cultural complex: there descends from the Andes the habit of chewing coca mixed with an alkalizer; and there ascends from the lowlands tobacco which is no longer smoked, to chew with the addition of an alkaline substance as if it were coca. In Colonial times were added to this the receptacles in which the preparation is carried and the use of cowhorn in which to store the product. It is not impossible that in pre-Hispanic times, deerhorn receptacles were used. What is certain is that there is preserved today in the Andean states and in the western plains (Llanos) the old, pre-Hispanic complex, enriched by Colonial constituents."

Mason (43) also feels that, as with tobacco, the use and form of chimó resulted from contact with coca techniques. He comments that, in the western Amazon basin, tobacco is either licked or chewed: "This is doubtless due to the coca-chewing habit of the Andean highlands, many of these tobacco-licking tribes also chewing the coca leaf." <sup>3</sup>

The link between chimó and tobacco concentrate is a very close one, and it introduces a second theory concerning chimó in the Venezuelan Andes.

Tobacco concentrate (*ambíl*) is made and used by two widely separated groups of primitive Indians. One group is composed of tribes (notably the Witoto and Bora, but including the Jívaro, Campa and Piro) of the western Amazon basin. The other group (notably the Kogi or Cágaba, Ika and Sanká) is located in the Sierra Nevada de Santa Marta, in northeasternmost Colombia; their generic name is Arhuaco (20).

The method of making tobacco concentrate of these tribes is essentially that of making chimó, although the product may be either a thick liquid or a paste.

The utilization of tobacco concentrate among them



ranges from tribal ceremonial to interpersonal ceremonial to hedonic. In this range of use, it differs from chimó, which is employed purely for pleasure, except in a very few cases.

Accounts of making tobacco concentrate by the Kogi and their neighbors are neither numerous nor detailed.

Rosa (54), whose general description of the Arhuaco of the Sierra Nevada de Santa Marta is both early and extensive, refers to the cultivation of tobacco yet does not describe its use as a concentrate.

An early account by Brettes (13), who began to observe the Kogi (he calls them the Kaggaba) in 1891 and published his report in 1903, describes the use of tobacco concentrate but not its manufacture. In fact, he seems not to have known exactly what it was. Brettes calls the mutual use of tobacco concentrate “the greeting machine” and describes gourds with tops which contain “a sort of honey [or translation could be ‘syrup’] mixed with nicotine, called *naoi* or *mouai*. . . . When two Indians meet they first tell each other all the news each gathered on his journey. . . . During the conversation the salute is made; it consists of this: (they first exchange a few coca leaves, putting them into each other’s bag). X takes his container of honey and nicotine and gives it to Z. Z gives his to X. The two open the containers, rapidly put the end of a finger two or three times into the honey, put their fingers into their mouths, close the containers and return them.”

That this “honey and nicotine” of Brettes is the tobacco concentrate under discussion is borne out by Mason’s (43) description of the Arhuaco use of tobacco concentrate. In referring to the meeting and exchange of gourds, however, he says the tobacco mixture is only touched to the lips and that frequently the men simply go through the motions.



Brettes' "greeting machine" is a good example of interpersonal ceremonial use of tobacco.

Reichel-Dolmatoff (51), writing about 50 years later than Brettes, omits this usage in his description of salutations, mentioning only the exchange of coca leaves. He seems to refer, however, to meetings within the village, while Brettes suggests that a journey is involved; perhaps the full ceremony took place only in the special case of an absence of some duration.

The preparation of tobacco concentrate among the modern Kogi is described briefly by Reichel-Dolmatoff (51): "They cook tobacco leaves for hours and days until they obtain a concentrated thick juice. This they mix with a little yuca starch and *sagú* and keep it in a calabash container (*tami*) covered with a similar but larger one. With the fingernail they take out a small quantity of this paste and rub it on the teeth and gums when they chew coca."

*Sagú* is *Maranta arundinacea*, West Indian arrowroot. Uscátegui (63), describing this same process, uses the word *sugii* (*Sorghum* spp.). He also says that the liquid tobacco preparation is called *mó* or *chimó*.

Accounts of the preparation and use of tobacco concentrate in the western Amazon basin are complete and reflect first hand observation. Of many observers, Schultes (55) gives the most detailed account, adding botanical as well as ethnological information.

It will be noted that the preparation by the Kogi and the Witoto is essentially the same. Uscátegui (63) states that these two tribes, so far apart geographically, have some analogies in their myths. He speculates on possible remote connections between them but offers no answers. The Witoto, he points out, live today in several localities of Colombia and adjacent Peru. During the rubber



boom, they fled from virtual enslavement, and suffered much cultural disintegration. The Bora, a kindred tribe with many of the same customs, have preserved more of their indigenous culture.

In view of these circumstances, it is interesting to compare Whiffen's (68) account of the making of tobacco concentrate and its use as he observed it in 1908-1909, and other early reports, with that of Schultes.

Schultes (55) introduces his account of the making of tobacco concentrate among the Witoto of the Colombian Amazonia with a brief résumé of its use and that of coca by this tribe.

"It is applied to the tip of the tongue with a small stick. . . . It is usually kept in containers made of half the fruit of the wild *cacao* (*Theobroma glaucum* Karsten) . . . . Occasionally (this) *ambíl* can be kept in containers of glass or tin, but the Indians think that the wild *cacao* shell contains something sweet that improves the flavor of the *ambíl*. For this reason, it is preferred to any other kind of container. . . . There is a close connection between the use of tobacco and of coca among the Witoto . . . . As prepared by them and others, coca has a more or less salty taste and is pale green; it is always prepared as a powder. The toasted leaves of *Erythroxylon Coca* Lam. are pulverized in a hollowed log and the resultant powder is mixed with well-sifted ashes of the leaves of *yarumo* (*Cecropia peltata* L.) and with the ashes of other species of the same genus. A tablespoonful or more . . . of this mixture is taken at intervals during the day. It is true that at times coca is taken without tobacco and that *ambíl* is used at times by those who are not coca-chewers. However, usually a little *ambíl* is placed on the tip of the tongue just before taking coca."

Witoto women do not use coca, but some use *ambíl*, according to Schultes, even during pregnancy, when



there are many prohibitions—an interesting detail, since Whiffen reported that women were prohibited the use of tobacco in any form.

The preparation of *ambíl* is described by Schultes as follows: “The preparation of *ambíl* is interesting, because it shows another example of the use of alkaline ashes with a narcotic-alkaloid, a custom widely spread in many parts of the world. The Witoto cultivate *Nicotiana Tabacum* very carefully, sowing it in the plots of *yuca* (*Manihot esculenta* Crantz). Only the largest and greenest leaves of the lower part of the plant are selected for making *ambíl*. One or two basketfuls of leaves are placed in a clay vessel which is usually three-quarters full of water. This mixture is placed on a pile of firewood, where it boils for six or eight hours, sometimes more. The mouth of the vessel is covered with a large leaf to lessen evaporation. When the extract is thickening and the evaporation slows up, the fire is put out and the extract is allowed to cool. The residue of the tobacco leaves is removed by hand, and all the excess juice is squeezed out. Before the extract concentrates to make a thick syrup or in some cases a paste, the *ambíl* is taken out of the vessel and, while being carefully stirred, is mixed with alkaline salts.

“These salts are prepared by evaporating water which has been poured over and drained through the ashes of various plants commonly used for this purpose. A huge forest tree of the genus *Lecythis* . . . is probably the most used source of alkaline ashes. Among other plants which are used now and then in the preparation of these ashes are two palms: a *Bactris* and a *Chamaedorea*. The stem and leaves of the *Chamaedorea* . . . and the young shoots of the *Bactris* . . . are reduced to ashes.

“There are small variations in the method of preparing Witoto *ambíl*. In El Encanto, for example, during the boiling, two avocado (*Persea americana* Mill) seeds are



added to the tobacco leaves. . . . Some individuals add yuca starch . . . to the tobacco extract to give it a firmer consistency. Occasionally, crude sugar (*Saccharum officinarum* L.) . . . also is added to sweeten the mixture.

“The Witoto generally prepare the *ambíl* at night, two or three persons staying awake to tend the fire and stir the extract. Sometimes, however, the making of *ambíl* takes place during the day. There is no special day or time for the preparation of this narcotic. Moreover, no ceremony takes place during the preparation, and any man of the tribe can do it.

“*Ambíl* generally keeps for four or five months. After this time, if not used it is thrown out, and a new supply is made.”

Schultes comments in conclusion that the Witoto assert that the Bora prepare and use *ambíl* as they do but have a ritual in connection with its preparation. He quotes Whiffen in some detail concerning ceremonial uses of *ambíl* (see note 4).

Comparison of Schultes' description of Witoto *ambíl*-making with that of *mó* and *chimó* shows that both process and product are strikingly similar, even to the detail of the use of *cernada* made from the ashes of certain preferred plants.

From the examples here given it is evident that there is a close connection between the tobacco concentrate of primitives and the *chimó* of non-Indian, civilized people.<sup>4</sup>

There remain the questions of how and when *chimó* appeared in the Venezuelan Andes.

As to “when”: on the basis of present knowledge of the prehistory of this area, this cannot be answered with any certainty. It is known, however, that it arrived in pre-Columbian times and, by the time it was observed by early chroniclers, was a conspicuous culture trait of



Andean tribes of the Mérida, Trujillo and Táchira area.

The "how" admits of more than one theory. Two possibilities especially present themselves when pertinent circumstances are considered.

Chimó could have evolved through the contact of a lowland tobacco-use with the coca-complex, as described by Acosta Saignes. Or it could have resulted from a transmission of *ambíl* techniques, including this tobacco concentrate itself, to which it bears so close a likeness. This latter possibility involves first of all the question of tribal contacts. Aguado (3), describing trading in *urao* in the Venezuelan Andes, refers to extensive intertribal commerce preceding the Discovery. Acosta Saignes (1) lists commerce among prehistoric culture traits of the area, referring particularly to *urao* and cotton mantles as trade articles. That there were strong intertribal contacts throughout an extensive area of both Colombia and Venezuela (some substantiated by archaeological discoveries of common elements of culture) is stated in Métraux and Kirchhoff's (45) account of Colombian Indians.

The question of contact between tribes brings up another factor: ease or difficulty of access between groups.

The topography of northern Colombia and northwestern Venezuela comprises mountain ranges separated by river valleys. Some of these valleys provide a way to the sea, others to the lowlands of the Maracaibo basin.

The Venezuelan Andes are an extension of the Cordillera which runs the length of the Pacific coast of South America. This range bifurcates as it enters Venezuela, one branch to the east, the Sierra or Cordillera de Mérida. One continues north along the Venezuela-Colombian border, the Sierra de Perijá (which trends near the Sierra Nevada de Santa Marta).

The Sierra Nevada de Santa Marta is geographically and geologically distinct from the Andes, separated by



the Magdalena River in the south and the César River in the southeast. It has an area of some 5,000 square miles, and its axis runs approximately east-west, in contrast to the approximately north-south axis of the Andes (40, 47, 64).

The Kogi of the Sierra Nevada de Santa Marta occupy a lens-shaped territory, the long axis of which runs east-west, situated back from the sea coast to its north and west, with a band of civilization between them and the sea. Various groups of the Kogi are located in small settlements along rivers and on the slopes (13, 47, 51). There was a migration of Kogi about 1875 (51); this may explain, in part, discrepancies between early and more recent accounts of these Indians and their neighbors.

Considering this topography, it is not difficult to imagine the relative ease of communication in pre-Columbian times between the Sierra Nevada de Santa Marta and the Venezuelan Andes; the trend of the mountains and their valleys would offer easy access to men on foot. Even today, there are traces of ancient roads, some with paving, leading in many directions (13).

A final factor in a consideration of transmission of a culture trait is archaeological evidence.

Artifacts indicate that the Indians of Colombia may have been culturally more advanced than those of Venezuela (64). They would, therefore, have been more likely to take the initiative in establishing communication and introducing their culture traits.

Acosta Saignes (pers. comm.) points out the present scarcity of information on migrations, particularly of the Goajiro. In 1954, however, he explored a large shell mound in the Goajiro area which was peculiar in containing ceramic ware of high quality, similar to some found in Colombia by Reichel-Dolmatoff. This similarity



leads Reichel-Dolmatoff to believe that there were migrations towards Venezuela by way of the César River.

That northern Colombia is an important crossroads region is now accepted by authorities (42).

One proven transmission by way of northern Colombia is that of maize. From Middle America "according to current beliefs of experts on the 'intermediate area', it spread south and east, reaching western Venezuela by way of Colombia" (69). Wagner (64) found charred maize cobs—some with grains—in her Carache, Venezuela, excavations. These were identified by Mangelsdorf and Cutler as belonging to the races of Pollo, Huevito and/or other varieties of maize. Two specimens were "quite primitive and could be the wild ancestor of the modern race Pollo and obviously relate to those of Andean Colombia" (30).

If maize could be transmitted, why not tobacco, especially tobacco in a particular form?

Reichel-Dolmatoff (pers. comm.) says: "I am inclined to think [use of tobacco concentrate] is an old aboriginal trait and not a recent development, but I admit that I have no proof. . . . There can be no doubt that prehistoric contacts between the Sierra Nevada de Santa Marta and the Andean regions of Venezuela were fairly close . . . . The trait might have passed over the Sierra de Perijá and the Yuco Indians (who use coca) might have been the intermediaries."

In summary, it can be said that chimó appeared in the Venezuelan Andes at an early date and definitely was there in pre-Columbian times; and that it may have appeared from the lowlands (transformed by contact with the coca complex of the highlands) or have been transmitted from the Sierra Nevada de Santa Marta by tribes who made and used ambíl, a concentrate practically identical to chimó as known at present.



“How” and “when” are provocative questions, but the remarkable characteristic of *chimó* is the persistence of a primitive method of preparation and form over generations of use by individuals identified with modern civilization who are neither primitive nor Indian.

True, *chimó* has altered in actual use. It is used for personal pleasure, not ceremonially—unless one man’s offering his *chimó* to another can be considered a remnant of interpersonal ceremony. For every *campesino* who buys a *bojote* wrapped in leaf, there are others who buy it in trademarked sticks. It is sold in modern shops as well as in markets or by the *chimoeros* themselves.

According to Valero (pers. comm.), whose interest in folklore may color his opinion, the younger people make little use of *chimó*, partly because of the availability of cigarettes and partly because anything “native” is scorned, whereas anything introduced is “smart”. He adds, nevertheless, that there are still many rural people, young and old—including some cultivated people of both sexes—who use *chimó* in Venezuela.

*Chimó* and its counterpart, tobacco concentrate, are known to have been employed at least for about 500 years. Dupouy (27), writing in the early 1950’s, states that the use of *chimó* has spread widely from the lands of Venezuela’s Timoto-Cuicas, the area of its apparent origin.

*Chimó* could be disappearing gradually in the general population to persist in specialized groups alone, much as the use of snuff and chewing tobacco has waned. Whatever the case, this unusual form of tobacco has had one of the longest and most interesting histories in human utilization of *Nicotiana Tabacum*.



## NOTES—PART I

1. *Licking*. Ramón y Rivera, authority on Venezuelan folklore, questions the word “licking”. He says (pers. comm.), “In any case it is not ‘licking’ but ‘teething’—*chupado* (sucked)—since to lick anything the tongue is protruded, and this is not done.”

At the risk of seeming to quibble, I cite a dictionary definition: “lick—pass the tongue over” (Webster’s New World Dict., College Ed., 1964). According to this definition the tongue need not be protruded. I simulated the use of *chimó* by applying a pea-sized bit of soft caramel to the inner surface of the lower teeth. In my experience, the tongue continually passes over the dissolving material and thus may be said to “lick” it. By contrast, in *snuff*-dipping, the powdered tobacco is placed in the mouth between gum and cheek, where it is sucked, not licked or chewed (34).

2. *Alkalizing agents*. *Nicotiana Tabacum* contains the alkaloid nicotine. Unlike some other alkaloids, nicotine does not require an alkali-zer to free it. Laboratory tests, however, show that the presence of an alkalizing agent accelerates and intensifies the action of the alkaloid on the human organism (32).

Lewin (41) reports: “We are here once more confronted with the remarkable practice of adding alkaline substances to stimulating or narcotic remedies. . . this is done in the case of. . . *coca* and *betel* and also in that of tobacco. Peoples of all kinds have instinctively found the most suitable means of setting free the active elements of the plant and enabling them to pass into the organism.”

With *chimó*, the alkalizing agents used are water in which plant ash has been soaked to make lye (*cernada*), *urao* (sesquicarbonate of soda) and bicarbonate of soda.

The use of ash from plant material is a common addition to tobacco. Lewin cites several instances in the Old World, especially in the case of snuff and chewing tobacco. Plant ash is also a New World additive to tobacco and other narcotic substances (55, 63).

3. *Urao*. *Urao* (also *jurao*, *hurao*, *xurao*, sesquicarbonate of soda, the trona of Africa) is found in the bed of a lagoon at Lagunillas, near the city of Mérida, Táchira State. It has been in use—not exclusively with *chimó*—since pre-Columbian times and is reported to be nearly exhausted (1; Venez. Minis. de Fomento, pers. comm.).

The *urao*—a grayish or yellow-gray, water-soluble, alkaline-tasting substance, occurs in lenticular layer formation of varying thickness.



A white deposit of unknown composition and the mineral gaylussite cover the *urao* (9).

Codazzi (19), writing of Venezuela in the 19th Century, says the Indians remove the *urao* by diving four or five fathoms deep. Métraux and Kirchoff (45) give details of use at the time of the Conquest: "The Indians living at Lake Jurao in the Venezuelan Andes cut through two layers of deposits in the lake bottom to obtain chunks of sodium carbonate (*jurao*). They used it as a salt substitute on food, they mixed it with coca (?) in place of lime, and they made it into a paste which they licked." They add that these Indians traded *urao* to many other tribes.

A lively and interesting account of *urao* at the time of the Conquest is that of Fray Pedro de Aguado (3), who wrote in the 16th Century, part of which follows: ". . . these Indians are superior and respected by the other Indians of this province. . . because of a certain lake or lagoon that (they) have in their land in which. . . there coagulates in the bed and bottom of it a kind of very bitter. . . saltpeter, that is neither salt nor saltpeter, which would not serve us for either; and of this kind of saltpeter the whole floor of the lagoon is made, or most of it, a crust which in part is very thick and in part thin, from which the Indians break off and take away to sell to all who come to buy . . . . Actually, the Indians want this saltpeter principally to eat, though it is eaten in various ways; some eat it with *echayo* [*hayo* or coca meant here, possibly] instead of lime, and others eat it with other food instead of salt, and others make a kind of paste (*betún*) of it like mead (sic) and this they eat by licking and giving evidence of enjoying it a great deal, and thus they are all vassals and contribute to those who have the lagoon and take out this saltpeter, which in their language they call *xurao*, and it is the principal money between these Indians I have described, because with it (they) give and sell all they have and are solicited (for). Also the Spanish make use of this saltpeter to give it to their horses, which purges and fattens them a great deal."

I have quoted this account at length because from it several significant inferences may be drawn. First: *urao* was known and used among a great number of Indians and was employed in several ways. One possibly was with coca. Granted the supposition is valid that tobacco borrowed details of preparation and use from coca, it may be supposed as well that *urao* was also utilized in *chimó*, although Aguado does not mention it. On the other hand, if *chimó* borrowed from tobacco concentrate in its preparation, plant ash would more probably be the alkalizer used, though use of *urao* would not be ruled out. Second: *urao* was made into a paste, probably resembling *chimó* in form and was licked. This closely parallels *chimó* use and could have



influenced the evolution of chimó from a semi-liquid to a paste.

Acosta Saignes (1) in his account of the Timoto-Cuica civilization, says that these people took chimó and that they employed *urao* in its preparation.

There is a generally accepted version of how *urao* and chimó were first associated, which contradicts Acosta Saignes' statement. Díaz (24) is one of several writers who advance this theory: "Although the indigenes used *mó* and chimó before the Conquest, they did not mix it with *urao* until 1781, when the Spanish chemist Pedro Verástegui showed them how to make it with this; for which reason, when the Spanish established the monopoly (*estanco*) on tobacco, the *urao* was also included in the monopoly."

Patiño (48) comments in one of the very few descriptions of chimó that I have been able to find: although Verástegui is given credit for first introducing the use of *urao* in the making of chimó, "from the very instructions left by him, it can be deduced that *mohoo* or chimó or call it what you will, was something known and common—implying that he only emphasized details of a procedure already followed."

The use of *urao* is at present an integral part of descriptions of chimó. *Urao*, reduced to powder, is added to chimó in varying quantities, as an alternative to the use of *cernada*. Chimó-users assert that it results in a "smoother" product with a salty taste. Chimó made in Mérida is cited as an example of this type of chimó. Bicarbonate of soda is sometimes substituted for *urao* and is added in the same way.

4. *Types of chimó.* Dupouy (27) describes chimó of various types. If it is strong and biting, it is *bravo* or fierce; if mellow, it is *manso* or tame. The latter is *dulce* or sweet and is less irritating and less toxic than the *bravo*, because it contains more mellowing ingredients. Only the most habitual users (*buenos comedores*) use chimó of the most *bravo* type.

The toxic effect of chimó is very marked on individuals not accustomed to the narcotic.

In a laboratory experiment with chimó at Harvard University in 1968, a graduate student, a non-smoker, placed an amount of chimó "the size of an eraser on a new pencil" on the back of his lower front teeth. He reports: "At first, it was cold and tarry like licorice. When it warmed up, I began to feel a biting sensation. . . prickly instead of hot like chili pepper. The sensation increased. . . until an area about the size of a penny on the under side of my tongue became numb. At the same time, I began to feel light-headed, as though I had taken several strong drinks on an empty stomach or had inhaled several puffs from a strong cigar. That effect lasted for about 15 minutes, after which my sense of balance and presence of mind returned to normal. During that time, I felt slightly unstable while



walking. After the major effect of light-headedness, I began to feel as though I were near to vomiting. That lasted for about an hour."

A widely valued antidote for the toxic effects of nicotine is any strong alcoholic drink. In Venezuela, the one usually recommended is a wine glass of *cocui* (or *cocuy*: a liquor made locally from *Agave Cocui*, similar to the *mezcal* of Mexico) (27).

5. *Sarrapia; curía*. *Sarrapia* is tonka bean (*Dipteryx odorata*). It imparts a flavor similar to that of vanilla. The beans may be toasted before powdered for adding to chimó; the powder is sometimes incorporated into a little *cocui* and then added.

*Curía* is identified by Pittier (50) as *caría*. (*Justicia caracasana*); Alvarado (5) uses *curía*, *Rhytiglossa caracasana*, synonym of the former binomial. Another synonym occasionally found is *Ecbolium caracasana*.

This member of the Acanthaceae is described by Díaz (24) as an aromatic: "The main use we make of *curía* is to flavor tobacco, placing the dry leaves in the boxes where it is stored or exported. . . . The aroma of this plant is not pronounced until it is quite dry." Alvarado defines *curía* as "a herb, the leaves of which when crushed give off a balsamic odor reminiscent of that of *sarrapia*. In the chimó-making industry they have the custom of adding to the paste being prepared, an infusion of this herb." Valero (pers. comm.) indicates that *curía* spreads over the ground and has a pleasant odor; stating that it is not extensively used in chimó in the state of Trujillo but that some people put a leaf into their chimó boxes "to give the chimó more taste".

Although Venezuelan authorities specify that *J. caracasana* is the species utilized in the preparation of chimó, there is reason to assume that *J. pectoralis* may likewise be employed.

Mr. Dieter C. Wasshausen of the Smithsonian Institution informs me that *J. caracasana* is an endemic of the Caracas area whereas *J. pectoralis* is a common species found in the Caribbean area and northern South America growing in woods and wastelands and also in cultivated fields, adding that the name *curía* refers also to *J. pectoralis* in Venezuela (herbarium specimen, *Steiermark 61051*, USNH). *J. pectoralis* is, furthermore, known as *curía* in Colombia (54), Puerto Rico, and Panama.

The natives say they add *Justicia* to chimó simply because it has a pleasant aroma. It may be significant to note, however, that, in discussing the myristicaceous snuffs of the northwest Amazon, Schultes and Holmstedt (58) report the occasional addition of *J. pectoralis* var. *stenophylla* to snuff made of *Virola* resin, stating: "There are preliminary indications that *J. pectoralis* var. *stenophylla* may possess alkaloidal principles".

The addition of the *Justicia*, consequently, might play a physiological role in the effects of the snuff.



6. *Chimú*. *Chimó* is known as *chimú* in Colombia. Reichel-Dolmatoff (pers. comm.) states: “*Chimó*—or *chimú* as it is called in Colombia—is widely used by the peasants and lower urban classes of the Department of Santander del Norte”. Ramón y Rivera (pers. comm.) asserts that “no author points out and I say it now, that in the Venezuelan Andes they say ‘*chimú*’, not ‘*chimó*’; this latter form is more correct”. I did not hear “*chimú*”; but I did not speak with cultivated persons in the Andes. Valero (pers. comm.) insists that only “*chimó*” is used in Venezuela.

7. *En Istú*. In this sense, this expression does not appear in any of several dictionaries consulted. Informants gave it also as *indistú* and *en istú*. In a letter from the Ministerio de Fomento the word was written with a capital “I” and a later letter confirmed the correctness of this form.

According to Valero and Rojas (pers. comms.) “*istú*” is an indigenous word and the name of a wild medicinal plant of the Andes which is cooked and eaten as food. Acosta Saignes (1) lists *istú* as a plant cultivated by Venezuela’s aboriginal Indians for food, from which also, paint was made. Alvarado (5) says the “*istú*” of Trujillo furnishes an indelible black dye and that its fruit, boiled in soup, gives a flavor of meat. He quotes Ernst in giving it an identity also as “*conopio*”. Pittier (50) lists *conopio* as the zingiberaceous *Renealmia occidentalis*.

There seems to be no connection between this word used for “crude *chimó*” and the name of a plant—unless it be the very tenuous association of the blackness of the crude *chimó* and the black dye of the *istú* plant.

8. *Cernada*. The word “*cernada*” is employed for a solid cake of ash and also for the liquid resulting from the soaking or leaching of this ash. The ash results from the burning of plant material and the liquid is caustic potash or lye (*lejía*). It ordinarily contains an average of 25% to 30% of lime and 0.5% potash and is strongly alkaline.

In Venezuela, several types of plant material reduced to ashes are used to make *cernada*. The following according to Valero (pers. comm.) are preferred: 1) The wood of *bucare* (*Erythrina* spp.), planted to shade coffee trees, likewise known as *anauco*, *ceibo*, *immortelle*.

2) The rinds of fruit or the stem sheath of plantain or banana. Valero (pers. comm.) comments that the collecting and burning of these is customarily done by elderly country women. They add a little water to ash and form it into a cake, or they add water and evaporate it until a solid mass is left. This cake or mass, wrapped in the dried sheath of the banana or plantain stem, is sold to the *chimoeros*.

This banana association is especially interesting, since it is charac-



teristic of the preparation of tobacco for utilization in other forms than *chimó*. Lewin (41) cites Liberian tribes who use the ash of banana skins to make chewing tobacco, and both Calella (16) and Uscátegui (63) mention this same use by the Siona of the Amazon basin, in their preparation of tobacco concentrate (*ambíl*).

3) Bean chaff (*tamo de caraota*—*Leguminosae* spp.). This, the waste after semi-dried beans are flailed and winnowed, consists of stems, leaves and pods. It is considered especially good for making *cernada*, according to Valero (pers. comm.).

Before the water in which the ash has soaked is added to the *mó*, it is strained through a cloth, so that no solid material remains in the *chimó*. To a given quantity of *mó*, about one fourth the quantity of *cernada* is added, for *chimó* of average strength (Valero pers. comm.). Depending on the amount of *cernada* added, *chimó* is more or less strong (*bravo*).

9. *Additives*. As has been noted, the question of what is added to *chimó* and when, involves conflicting statements. Among informants with first hand knowledge, additives are mentioned vaguely, if at all. Sundry writers give a variety of substances as additives. The following list is drawn from several accounts:

Anise (*anís*, *Pimpinella Anisum*); *chivata* or *cervata*, a plant that I am unable to identify, mentioned by Valero (pers. comm.) who states that it is not often used because it softens (*aflojar*) the *chimó* too much; cloves (*clavo de olor*, *Eugenia caryophyllata*); *cocui* (or *cocuy*, liquor from *Agave Cocui*); *curia* (see above); nutmeg (*nuez moscada*, *Myristica fragrans*); tonka bean (*sarrapia*, *Dipleryx odorata*); vanilla (*vainilla*, *Vanilla planifolia*).

For sweetening, crude, brown sugar is added. Made from sugar cane (*Saccharum officinarum*), it is called *panela* or *papelón* in Venezuela, depending on whether it is brick or cone shaped.

Under additives, two more items present special problems.

Lewin (41), giving no source, states that opium is "occasionally added" to *chimó*. The only other mention of opium in connection with Venezuelan tobacco is in Billings (10) who, referring to tobacco, not *chimó*, asserts: "For their own use they have adopted the method of the Brazilians, sprinkling the leaf with water containing the juice of the poppy." In his description of Brazilian tobacco, however, he makes no mention of "the juice of the poppy". I did not find any mention of opium or paregoric in several accounts of Venezuelan tobacco production (e.g. 19, 24, 29, 48), nor has Valero ever heard of the practice.

Also presenting a special problem is the use of the leaves of *Paliourea Chimó* and those of at least two other rubiaceous species. Steyermark (62) quotes from his published description: "The specific name



'chimó' refers to the use of this and other similar species by the local inhabitants with reference to the leaves' being boiled with those of the tobacco plant to make tobacco juice, known in this area as 'chimó'. Steyermark's collection gives the local name of *Palicourea Chimó* as "cafecito blanco". Of the other similar species he mentions two: *Guettarda sabiceoides* ("quina negra") and *Cephaelis tinctoria* ("cafecito"). All three of these were collected in the State of Lara near Humocaro Bajo, and Steyermark's information came from people of that region. He is careful to add (pers. comm.), "whatever else takes place before or after this (the boiling), I do not have any data as to other steps in the process. I actually did not watch the operation but was merely told about it, and of course second hand information is never to be trusted".

Assuming that his informants were correct in their identification and names, the question of whether these names and the use of the plants are widespread or are restricted to this area, still remains; that is, whether this use is or is not a significant factor in the making of chimó. It would be helpful also, to know why these leaves are added to the tobacco leaves.

Recent studies of rubiaceous species indicate that the family does contain psychoactive substances. Schultes (57) cites the use in caapi of *Psychotria* by the Kofán Indians of Amazonian Ecuador. Der Marderosian et al. (23) describe the use of *Psychotria* spp. in a beverage, by the Cashinahua of the Amazon basin, and states that the psychotomimetic DMT has been found in the leaves of *Psychotria* spp. and isolated in crystal form from the beverage. This is the first reported occurrence of DMT in the *Rubiaceae*.

Could chimó with the addition of rubiaceous plants, reported by Steyermark, possibly have different effects than chimó made only of tobacco?

Steyermark's report is the more interesting because it is the only such information uncovered in my study of the preparation and use of chimó and of tobacco concentrates in general. Accounts of the making of mó all emphasize that only tobacco leaves are employed and in lists of additives used during the second step—the conversion of mó to chimó—the common names of these rubiaceous plants do not appear. Confirmation of Steyermark's reports and critical confirmation of the common names involved, and why the additives are used—these points need clarification.

10. *Spitting*. Díaz (24) writes: "This vice is the dirtiest of tobacco use, the more so for the saliva, more abundant, blacker and greasy, that it produces". Whenever the general use of chimó is described, the necessity of frequent expectoration (without a receptacle) is men-



tioned. On the other hand, references to *chimó* among the upper class omit reference to this need.

The statement of a lady (pers. comm.) who remembered her Andean grandmother's use of *chimó*, is enlightening. Her grandmother kept near her one of a set of small crystal bowls, which was replaced each time she used it.

Jahn (37) illustrates an account of snuff with a representation of a Restoration dandy with what is described as a "spitting basin" in one hand, a snuff box in the other. Such omission of unpleasant details is also characteristic of descriptions of snuff-dipping. The account of Virginia belles' dipping snuff quoted in the text, is a good example of this silence on the subject.

Contrasted with these are accounts of and stories about tobacco chewing, a custom identified with "the common man" and with virility and masculinity, in which expectoration is freely referred to and is even the subject of anecdotes and jokes.

11. *Placing chimó behind the teeth.* Valero (pers. comm.) makes a qualifying comment, since so many country folk lose teeth early: "Those who lack front teeth," he says, "place it behind the gums".

12. *Cajetas.* Probably the truth about *chimó* boxes other than the commonly used round ones, lies somewhere between Pinedo's statement and my own experience. Valero's description of what evidently seemed to him a common variant is borne out by the fact that I acquired a number of fancifully shaped *cajetas* in Boconó—a town far removed from tourist influence or a market for collectors.

When they were brought to me to be examined and admired, I had the impression that here were boxes designed for use and were simply more interesting than round boxes. They cost two or three times as much as the round ones; but they had much more detail than the plain ones, the *cajetas corrientes*.

Among my *cajetas* there is a very small turtle with red spots on his back, picked up in a Caracas pawnshop. The inside of this box is dark with the remains of *chimó*. Unused boxes in my collection include one with *paletica* made of horn to match the box, attached by a silver chain to a silver medallion in the center of the top of the box.

Some snuff boxes in museum collections are accompanied by tiny spoons or shovels; and *chimó* boxes made of horn tips find a counterpart in snuff boxes. Stern, in his *Sentimental Journey*, for example, describes a snuff box shaped like a cornucopia with a lid—surely not the only one in existence in his time.

13. *San Benito.* There are two other verses referring to the saint's black teeth:



*San Benito tiene sus dientes negros/ De puro comer chimó aliña'o/  
Bebe aguardiente en los eneros/ Y por eso lo vemos rasca'o.*

Saint Benedict has black teeth/ From eating flavored chimó/  
He drinks *aguardiente* in January (his feast-time)/  
And so we see him drunk.

*San Benito viene de Boconó/ Muy feliz se siente/ Tiene sus dientes  
negros de puro comer chimó/ Viene a bailar con toda la gente.*

Saint Benedict comes from Boconó/ He feels very happy/ He has  
black teeth just from eating chimó/ He comes to dance with  
everybody.

These and other verses of Andean origin (Valero, pers. comm.), indicate how admirable it is to have black teeth from eating chimó: perhaps there is the implication that a man who can buy enough chimó to discolor his teeth is to be respected. (See betel and black teeth, below.)

14. *Black teeth.* Many observers of the use of tobacco, coca and betel have commented on dark-stained or black teeth of users. Whether they are discolored or really black, is not certain from the descriptions of these observers.

Patiño (48) quotes Las Casas (18) on Indians chewing coca, "... that having the teeth very white commonly, a crust is put on them blacker than jet (*azabache*)."

Humboldt (36), in describing the Goajiro use of lime alone as a stimulant, states that lime blackens teeth. Métraux and Kirchoff (45) report that these Indians formerly chewed coca with lime, thus blackening the teeth. Reichel-Dolmatoff (51), on the other hand, states of the Kogi: "The blackened teeth which many men have do not result from coca but from the consumption of this concentrated paste (of tobacco)." Schultes (55) observes that the Witoto have discolored teeth and that their coca is mixed with ashes, not lime; they also use tobacco concentrate. "The constant use of these two narcotics," he reports, "affects perceptibly the sense of taste and discolors the teeth." As these representative samplings of opinion indicate, both lime and tobacco are suggested as causes of black or stained teeth.

In addition there remains the question of "black" versus "dark-stained". With the Witoto and Kogi, where tobacco as well as coca is used, dark-staining seems to be the result. Perhaps, as Valero says of chimó users, this is due simply to lack of cleaning the teeth. Alternatively, lime or lime and coca seem to be responsible for a kind of black crust—a really black tooth.

Perhaps a short account of the use of betel will throw light on the question of blackening of the teeth.



Lewin (41) describes the typical betel morsel as composed basically of areca nut, a betel leaf and burnt lime about the size of a pea. "In inveterate betel-chewers who do not keep themselves very clean," he says, "a crust, mainly consisting of calcium carbonate, is formed in the course of time on the teeth and gums. In the Admiralty Islands, the formation of this 'tooth-stone' is regarded as an attribute of the dignity of chief, for only the very rich are in a position to indulge so freely in chewing as to produce such quantities of 'tooth-stone'. When the mouth is closed, these dental excrescences protrude from between the lips like the point of a black tongue."

Considering the proportion of lime in betel and its apparent result, it may be useful to note that the plant ash used in the Witoto and Kogi tobacco concentrate contains lime—but obviously not in the amount found in betel and coca preparations.

Perhaps these generalities are justified: Tobacco seems to be responsible for stained teeth, while lime seems to form a black crust. In both cases, lack of cleanliness is a secondary factor. Furthermore, in the case of chimó and betel, black or dark teeth may be a source of prestige.

There are many instances of deliberate tooth-blackening among primitive peoples. Whiffen (68) cites the case of Issa women of the Amazon who cover their teeth and fingernails with black pigment. Humboldt (36) describes the Chaymas of northern Venezuela who blacken the teeth "from the age of fifteen by the juices of certain herbs and caustic lime". He states that the leaves of a tree resembling the myrtle are used and that the presence of lime is significant.

Various reasons for tooth-blackening are given by those who practice the custom: e.g. that it protects the teeth and prevents toothache, but most investigators regard these as excuses or evasions. Humboldt (36) writes: "I doubt much whether the custom. . . was originally suggested, as Gomara supposed, by absurd notions of beauty, or was practiced with the view of preventing the toothache".

In all probability, tooth-blackening originally had a religious and ceremonial context which became secularized and non-ceremonial as traditional customs were altered by tribal contacts with Europeans.

15. "*Tabaco en la vejiga*." This phrase means literally "tobacco in the bladder", referring to the bladder of a bull, used as a pouch for chewing tobacco by the cowboys of the Venezuelan plains (*llaneros*). Mendoza (44) equates the possession of such a pouch full of chewing tobacco with a man's characteristics of courage, vigor and virility. The expression is used all over Venezuela in this sense.



## NOTES—PART II

1. *Uses and names for tobacco among primitives.* Tobacco plays many roles in primitive societies (21): 1) curative of certain diseases and wounds and defense against insects and pests; 2) preventive of hunger, thirst, fatigue and restorative of physical and mental energy; 3) ceremonial; 4) medium of exchange; 5) source of pleasure to taste and smell and as a narcotic or stimulant in a variety of methods of consumption.

Synonyms for tobacco are many; among them are: Brazil, *petum* or *petun*; Peru, *sayre*; Colombia, *yuri*; Aztec Mexico, *picietl*, *yiell* (34). Sundry Indian tribes have their own names for tobacco (48). The Spanish word is *tabaco*.

2. *Contexts of use.* La Barre (40) points out that the significant distinguishing factor between aboriginal and present uses is that the former had a sacred context. Since it altered the psychic state, tobacco was believed to possess supernatural power.

Some authorities explain its passing into hedonic use today by the fact that, as primitive groups were exposed to civilized customs, their own cultures deteriorated. In their resultant insecurity and despair, these groups turned to a generalized use of tobacco and other narcotics for comfort and reassurance.

3. *Coca and chimó parallels.* With both coca and chimó, a plant substance containing a narcotic, together with an alkalizing agent, is put into the mouth and kept there where its active constituents are absorbed through the mucous membrane. With coca, where saliva is usually swallowed, the stomach is also involved.

Users of both coca and chimó claim the same effects: prevention of hunger and fatigue and soothing of body and spirit. The Kogi alone deny to investigators that they use coca to banish hunger; these people assert that they take coca because it is pleasant and prevents sleepiness, so that they can talk all night with the Old Time Ones (*Los Antiguos*). They scorn any admission of hunger (51).

Both coca and chimó are used at frequent intervals, the user carrying them on his person in special containers.

Frequently, coca and tobacco concentrate are taken simultaneously. The Cágaba (Kogi) rub tobacco concentrate on their teeth and gums while chewing coca which, they say, tastes better (47, 51, 63). The Witoto place a little *ambíl* on the tip of the tongue, just before taking coca, according to Schultes (55), who adds that coca alone is



“more or less salty, tending to sweet” and the flavor of *ambíl* is “strong, piquant and salty”; when they are mixed, the taste is “very pleasant, warm, salty and slightly aromatic”.

It is significant that whereas in the Andes *coca* leaves are used toasted and crushed and mixed in the mouth with lime, the coca of the Amazon basin is pulverized after toasting and mixed with plant ash before use. Since plant ash is used in the making of both *tobacco concentrate* and *chimó*, here is an additional factor bringing the two into a close relationship.

4. *Tobacco concentrate and chimó parallels.* Whiffen (68) and others describe the preparation and use of tobacco concentrate much as does Schultes. A comparison of these descriptions indicates that although details vary, the primitive process of making tobacco concentrate is essentially that of making *chimó* in modern Venezuela.

Whiffen, who studied the Witoto, Bora and other tribes in the Colombian Amazon in 1908–1909, describes the making of *ambíl* briefly. Leaves of tobacco are soaked in water, then pounded in a mortar; a little thickened cassava starch is added, and the mixture is “a stiff, dark liquid” to be used either individually or ceremonially.

This procedure is also given by Cooper (20) who asserts that *tobacco* leaves may be soaked, pounded and mixed with *cassava* starch instead of being cooked, adding that, “a somewhat similar paste with the addition of other ingredients, is in use as pellets in contemporary Venezuela”.

A similar way of making tobacco concentrate is reported by Driver (26) for the Indians of California and Nevada who, in the past, ground tobacco leaves in a stone mortar with lime and water and licked the concoction off the pestle.

Whiffen explains ceremonial uses of tobacco concentrate in detail: “The Indian parliament, the Indian court of law, is the ‘tobacco palaver’. When word has gone round that it is desired to hold a council, the warriors and elders of the tribe foregather, and squat on their haunches around the tobacco-pot which. . . is placed in their midst . . . . When his final word is uttered, the spokesman will reach forward and take the pot, dip in a short stick, and wipe some of the black liquid on his tongue. He will then pass the pot around. . . and every man who has agreed with him will take tobacco. . . . The passing of tobacco is also used as a binding promise on every verbal agreement between individuals. In this case they will dip a small stick like a match into the liquid and pass it over the tongue, or put their forefingers into each others’ tobacco-pots, made from the hollowed husks of nuts and which are usually carried suspended round the neck by a string. The tobacco-pot comes into requisition again at a friendly meeting, and serves to emphasize the binding nature of this friend-



ship". Whiffen adds that formerly, births, weddings and other similar occasions were celebrated with gifts of *ambíl* and *coca*, and he refers to the importance of *ambíl* in Witoto mythology.

Monconill (46) describes the preparation of *ambíl* by the Witoto, stating that for thickening either *yuca* or the liquid containing *tapioca*, which results when *yuca* is squeezed to make *cazabe*, is used; the product is hard when cool. He writes that when the Indians have a meeting "they place in the center of the group a small vessel containing a little cold water and a little ash from the cooking fire. . . and with the fingers they dissolve a ball of tobacco. They go on talking and in sign of assent. . . put a finger in and lick it; others put more than one finger in, or a small stick, etc. . . . They continue chewing *coca*. . . licking their fingers smeared with tobacco from time to time to signify applause. . . . Thus at times they pass the night."

Callela (16) describes *ambíl* among the Siona, a tribe which "cooks the leaf and cools the mixture. The leaves are removed, pounded and put into the liquid again. This continues to evaporate. More water is added until the mixture is very thick. When it is thick, they add husks of *cacao colorado de monte* (*Herrania* sp., probably *H. breviligulata*), burned to ash and sifted, also peel of green plantain, also reduced to ash, and the bark of *yoco* (*Paullinia Yoco*). All this they mix with the tobacco. They put it into a gourd (*puro*), and from this they take it. Some only lick it; others, more daring, swallow it. It is very strong. It causes dizziness in those not accustomed to it."



## ACKNOWLEDGMENTS

For valuable comments and assistance in preparing this paper, I am particularly indebted to Dr. Richard Evans Schultes of Harvard University, who encouraged me to undertake and report on the research.

My grateful appreciation for many answers to requests for information goes especially to Professor Walter Dupouy, of Caracas and to Señor Salvador Valero C. of San Rafael de Carvajal, Valera, State of Trujillo, who generously shared their knowledge of chimó with me; and to Dr. Erika Wagner of Caracas, who furnished me with invaluable historical and archaeological material. This paper owes them a significant debt.

Finally, I wish to express my gratitude to others named below, who provided data through personal communications or who were otherwise helpful in the preparation of this monograph: Dr. Miguel Acosta Saignes; Dr. E. P. de Bellard; Mr. G. C. K. Dunsterville; Ministerio de Fomento, Venezuela (Sr. Luis Andrés Colmenares); Larry L. Kistler; Dr. Victor Manuel Patiño; Sr. Rafael Pineda; Sr. Angel Pinedo; Dr. Luis Felipe Ramón y Rivera; Dr. Gerardo Reichel-Dolmatoff; Dr. María Teresa Rojas; Dr. Velva E. Rudd; Dr. Julian A. Steyermark; Sra. Hildamar E. de Tesser; Mr. Dieter C. Wasshausen; Dr. J. J. Wurdack.



## LITERATURE CITED

1. Acosta Saignes, Miguel. 1952. El area cultural prehispánica de los Andes venezolanos. *Arch. Venez. Folklore*. Año 1, No. 1. 45-72.
2. Acosta Saignes, Miguel. 1954. La cajeta de chimó. *Bol. Indigen. Venez.* Tomo 11, Nos. 1-4. 77-84.
3. de Aguado, Fray Pedro. 1963. Recopilación historial de Venezuela (Fuentes para la historia colonial de Venezuela). Caracas. 402.
4. Allard, Harry A. and Howard F. Allard. 1947. Andullo and Perique—Dominican and Louisianan tobacco. *Agric. Amer.* Vol. VII, Nos. 10-11. 123-126.
5. Alvarado, Lisandro. 1921. Glosario de voces indígenas de Venezuela. Ed. Victoria. Caracas.
6. Ames, Oakes. 1939. Economic annuals and human cultures. *Bot Mus.*, Harvard Univ., Cambridge.
7. Appleton's New English-Spanish and Spanish-English Dictionary. Ed. 3, 1942. Appleton-Century, New York.
8. Archer, W.A. 1937. Exploration in the Choco Intendency of Colombia. *Scient. Monthly*. Vol. XLIV. 418-443.
9. Balda, Felix A. and Carlos J. Ponte. No date. Estudio de los recursos minerales de los Andes venezolanos. VI Congreso Venezolano de Ingeniería.
10. Billings, E.R. 1875. Tobacco: its history, varieties, culture, manufacture, and commerce. American Publishing Co., Hartford.
11. Bingham, Hiram. 1909. The journal of an expedition across Venezuela and Colombia, 1906-1907. Yale Publishing Association. London and New Haven.
12. Brennan, W.A. 1915. Tobacco leaves. Collegiate Press. Menasha, Wisconsin.
13. Brettes, Joseph, Comte de. 1903. Les indiennes Arahouaques-Kaggaba. [translation W.Z. Park, typed ms. with drawings.] *Bull. Soc. d'Anthropol.* Paris. Bk. 4, V series.
14. Briceño-Iragorry, Mario. 1952. Alegría de la tierra. Ed. Avila Gráfica. Caracas. 160.
15. Brooks, Jerome E. 1952. The mighty leaf. Tobacco through the centuries. Little, Brown and Co. Boston.
16. de Calella, Plácido. 1945. Tabaco en los tribus Siona. *Amazonia: Colombia Americanista*. Tomo 111, Nos. 9, 10. 39.



17. Cardona, Miguel. 1964. Notas sobre el uso del tabaco en Venezuela. Temas de Folklore Venezolano, Bib. Venez. de Cultura. Ed. Ministerio de Educación. Caracas.
18. Casas, Bartolomé de las. 1951. Historia de las Indias. 3 Vols. Ed. Agustín Millares Carlo. Fondo de Cultura Económica, Gráfica Panamericana. Mexico.
19. Codazzi, Agustín. 1940. Resumen de la geografía de Venezuela (Venezuela en 1841). Bib. Venez. de Cultura, Ed. del Ministerio de Educación Nacional. Caracas.
20. Cooper, John M. 1949. Stimulants and narcotics. Handbook of South American Indians. Ed. Julian H. Seward. Bureau of Amer. Ethnol. Bull. No. 143, Vol. 5. Washington, D.C.
21. Curtis, Mattoon M. 1935. The story of snuff and snuff boxes. Liveright Publishing Co. New York.
22. Depons, F. 1807. Travels in South America during the years 1801, 1802, 1803 and 1804. . . and an account of the discovery, conquest, topography, legislature, commerce, finance, and natural productions of the country. . . . 2 vols. Hurst, Rees and Orme. London.
23. DerMarderosian, A.H. and K. Kensinger, F. Goldstein, and J. Chao. 1969. The use of hallucinatory principles of a psychoactive beverage of the Cashinahua tribe (Amazon basin). Abstracts. XI International Botanical Congress, Aug. 24-Sept. 2, 1969. Seattle, Washington. 45.
24. Díaz, José A. 1861. El agricultór venezolano. Imprenta de M. de Briceño. Caracas.
25. Diccionario general de americanismos. Francisco Santamaría. 3 tomos. Ed. Pedro Robredo. Mexico. 1942.
26. Driver, Harold. 1961. Indians of North America. University of Chicago Press. Chicago.
27. Dupouy, Walter. 1952. Aspectos folklóricos del uso del chimó. Arch. Venez. de Folklore. Año 1, No. 2. Caracas. 310-322.
28. Fairholt, F.W. 1876. Tobacco: its history and associations. Ed. 2. Chatto and Windus. Piccadilly. London.
29. Gornés Mac-Pherson, M.J. 1933. De la conquista a nuestros días. Historia del tabaco. Editorial Elite. Caracas.
30. Grant, U.J. et al. 1963. Races of maize in Venezuela. National Academy of Sciences—National Research Council, Publication No. 1136. Washington, D.C.
31. Gumilla, Joseph. 1745. El Orinoco ilustrado y defendido. . . . Segunda impresión, revista, y aumentada por su mismo autor, y dividia en dos partes. 2 Vols. En Madrid, por Manuel Fernández, Impressor del Supremo Consejo de la Inquisición, y de la



- Reverenda Camara Apostólica, en la Caba Baxa. Año MDXLV.
32. Hamilton, David W. 1957. The use of alkaline admixtures with narcotic plants. [Unpub. ms.] Library of Economic Botany, Harvard Botanical Museum, Cambridge.
  33. Harrison, D.F.N. 1964. Snuff—its use and abuse. *British Medical Journal*. Dec. 26, 1964. No. 2. London. 1649-1651.
  34. Heiman, Robert K. 1960. Tobacco and Americans. McGraw Hill Book Co. New York.
  35. Hill, Albert F. 1952. Economic Botany. Ed. 2. McGraw Hill Book Co. New York.
  36. Humboldt, Alexander von. No date. Personal narrative of travels to the equinoctial regions of America during the years 1799-1804. Translator, Thomasina Ross. 3 Vols. Geo. Routledge. London.
  37. Jahn, Raymond (Ed.). 1954. Tobacco dictionary. (Material from Arents Collection.) Philosophical Library. New York.
  38. Kamen-Kaye, Dorothy. 1943. Beside the point. *Goucher Alumnae Quart.* Vol. XXI, No. 2. 5-7.
  39. Kamen-Kaye, Dorothy. 1951. Chimó: a preliminary study of a form of tobacco and its use in modern Venezuela [unpublished ms.].
  40. La Barre, Weston. 1964. The narcotics complex of the New World. *Diogenes* 48. Winter, 1964. 125-138.
  41. Lewin, Louis. 1964. Phantastica: narcotic and stimulating drugs, their use and abuse. Routledge and Kegan Paul. London.
  42. Mangelsdorf, Paul C. and Robert G. Reeves. 1959. The origin of corn. (IV, place and time of origin). *Bot. Mus. Leaf.* Harvard Univ. Vol. XVIII, No. 10. 413-427.
  43. Mason, J. Alden. 1924. Use of tobacco in Mexico and South America. *Field Mus. Nat. Hist. Anthropol. Leaf.* No. 16. Chicago.
  44. Mendoza, Daniel. 1922. El Llanero. (Estudio de sociología venezolana). Ediciones de Cultura Venezolana. Caracas. 34.
  45. Métraux, Alfred and Paul Kirchhoff. 1948. The northeastern extension of Andean culture. *Handbook of South American Indians*. Ed. Julian H. Seward. Bureau of Amer. Ethnol. Bull. No. 143, Vol. 4. Washington, D.C.
  46. de Monconill, Gaspar M. 1945. Manera como preparan la coca los indios Witoto en general. *Amazonia: Colombiana Americanista*. Tomo 111, No. 9, 10. 41-42.
  47. Park, Willard Z. 1946. Tribes of the Sierra Nevada de Santa Marta, Colombia. *Handbook of South American Indians*. Ed. Julian H. Seward. Bureau of Amer. Ethnol. Bull. No. 143, Vol. 2. Washington, D.C.



48. Patiño, Victor Manuel. 1967. Plantas cultivadas y animales domésticos en America equinoccial. Tomo 111, Fibras, Medicinas, Misceláneas. Imprenta Departmental. Cali.
49. Picón-Salas, Mariano. 1943. Viaje al amanecer. Selecciones Hispanoamericanas, Universidad Nacional Autónoma de Mexico. Mexico. 120.
50. Pittier, Henri. 1926. Manual de las plantas usuales de Venezuela. Litografia del Comercio. Suplemento, 1939. Editorial Elite. Caracas.
51. Reichel-Dolmatoff, Gerardo. 1949-1950. Los Kogi. Un tribu de la Sierra Nevada de Santa Marta, Colombia. Tomo 1 Rev. Instit. Etnolog. Nac. Vol. IV. Bogota. 9-298. Tomo 11 Editorial Iquema, Bogotá. 1951.
52. Reichel-Dolmatoff, Gerardo. 1953. Contactos y cambios culturales en la Sierra Nevada de Santa Marta. Editorial Antares. Bogotá.
53. Robert, Joseph C. 1949. The story of tobacco in America. Alfred A. Knopf. New York.
54. Rosa, José Nicholas de la. 1833. Floresta de la Santa Iglesia Catedral de la Ciudad de Santa Marta. Imprenta de D.M. de Caberizo. Valencia.
55. Schultes, Richard Evans. 1945. El uso del tabaco entre los Huitotos. Agric. Trop. Año 1, No. 9. 19-22.
56. Schultes, Richard Evans. 1955. A new method of coca preparation in the Colombian Amazon. Bot. Mus. Leaf. Harvard Univ. Vol XVII, No. 9. 241-246.
57. Schultes, Richard Evans. 1967. The place of ethnobotany in the ethnopharmacologic search for psychotomimetic drugs, in Ethnopharmacologic Search for Psychoactive Drugs [Efron, D., Ed.]. U.S. Gov't Printing Office, Public Health Service Publication No. 1645. 1967. 33-38.
58. Schultes, Richard Evans and Bo Holmstedt. 1968. The vegetal ingredients of the myristicaceous snuffs of the northwest Amazon. Rhodora, Vol. 70, No. 781. 114-160.
59. Spinden, Herbert J. 1950. Tobacco is American. The story of tobacco before the coming of the white man. New York Public Library. New York.
60. Spruce, Richard. 1908. Notes of a botanist on the Amazon and Andes. . . . Edited and condensed by Alfred Russel Wallace. 2 Vols. Macmillan and Co., Limited. London.
61. Steward, Julian H. et al. 1948. Tropical forest tribes. Handbook of South American Indians. Bureau of Amer. Ethnol. Bull. No. 143, Vol. 3. Washington, D.C.



62. Steyermark, Julian A. and collaborators. 1953. Contributions to the flora of Venezuela. *Fieldiana: Bot. Ser.* Vol. 28, No. 3. Publ. 724. Chicago Natural History Museum. Chicago.
63. Uscátegui Mendoza, Nestor. 1959. The present distribution of narcotics and stimulants among the Indian tribes of Colombia. *Bot. Mus. Leaf.* Harvard Univ. Vol. XVIII, No. 6. 273-304.
64. Wagner, Erika. 1967. The prehistory and ethnohistory of the Carache area in western Venezuela. Yale University Publ. *Anthropol.* No. 71. New Haven.
65. Wassén, S. Henry. 1965. The use of some specific kinds of South American Indian snuff and related paraphernalia. *Etnologiska Studier* 28. Göteborg.
66. Webster's New World Dictionary of the American Language. (College Ed.) 1964. World Publishing Co. Cleveland. New York.
67. Webster's Third International Dictionary (unabridged). 1961. G. and C. Merriam Co., Springfield, Mass.
68. Whiffen, Thomas. 1915. The north-west Amazons. Duffield and Co. New York.
69. Willey, Gordon R. 1959. The "intermediate area" of nuclear America; its prehistoric relationships to Middle America and Peru. *Actas del XXXIII Congreso Internacional de Americanistas.* San José, 20-27 Julio, 1958. Vol. 1, 184-194. San José.
70. Wissler, Clark. 1938. The American Indian. Oxford University Press. London.
71. Wolf, Frederick A. 1949. Production in Venezuela of indigenous varieties of tobacco. *Econ. Bot.* Vol. 3, No. 2. 132-139.